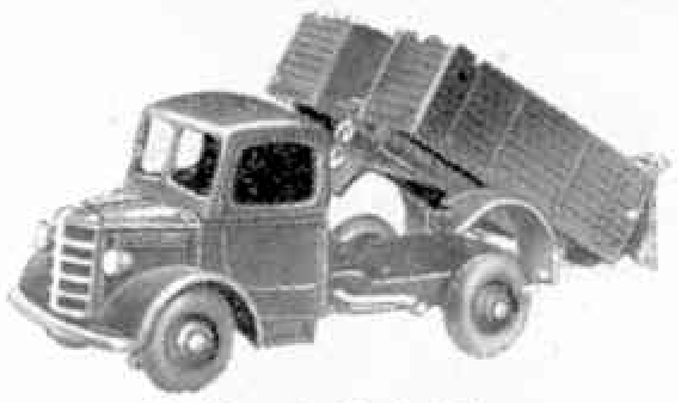
VOL. XXXIII. No.4 APRIL 1948

MECCANO MAGAZINE

R.M.S. "ANDES"

6D.

DINKY TOYS



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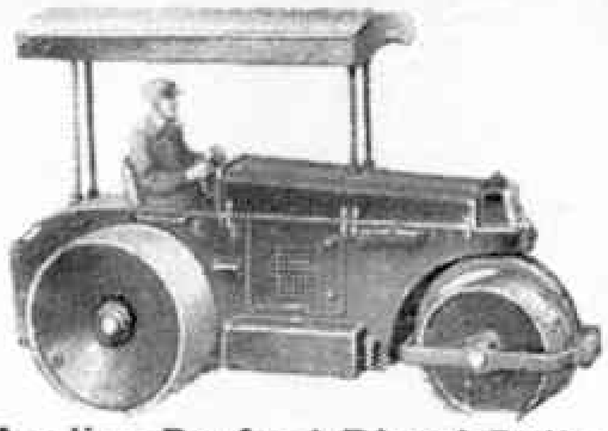

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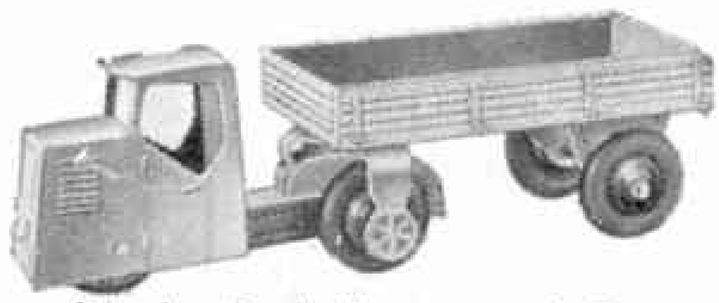

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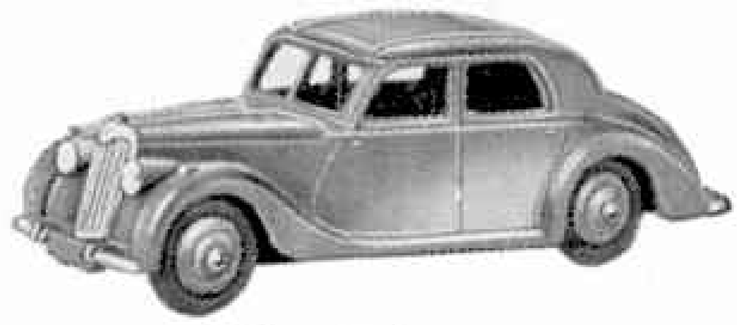

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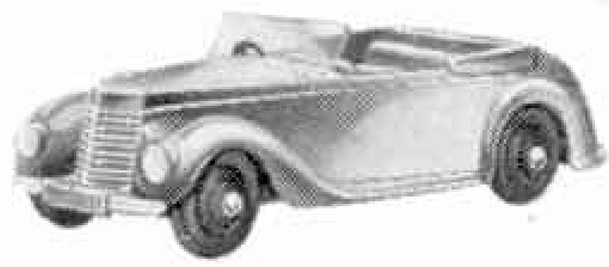

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DINKY SUPERTOYS

New This Month

Dinky Supertoys No. 521

The Bedford Articulated Lorry, illustrated on the right. This type of lorry carries heavy loads and can be manœuvred easily into narrow spaces.

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The following Dinky Supertoys are now available.

	Price each incl. Tax
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No. 502 Foden Flat Truck	10/6
No. 503 Foden Flat Truck, with Tailboard ..	10/6
No. 511 Guy 4-ton Lorry	7/6
No. 512 Guy Flat Truck	7/6
No. 513 Guy Flat Truck, with Tailboard ..	7/6
No. 521 Bedford Articulated Lorry.. ..	7/6
No. 701 Shetland Flying Boat	7/6

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Guy 4-ton Lorry
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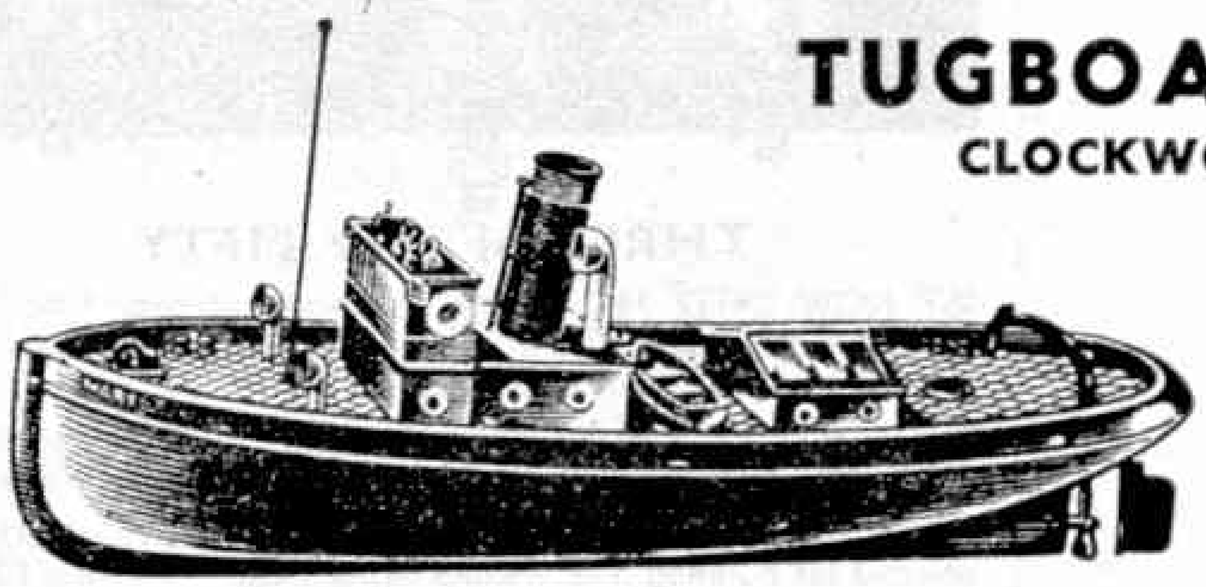

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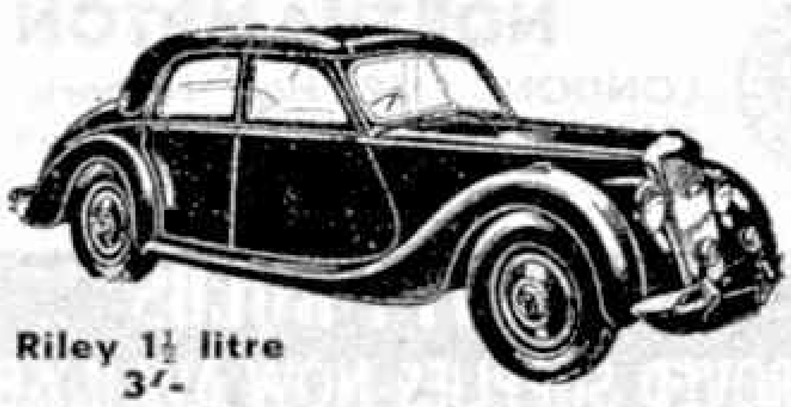
10/10



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The models shown here are already in the shops and will be followed very shortly by the Armstrong Siddeley 'Hurricane,' Jowett 'Javelin' and Buick 'Super Eight' saloons.

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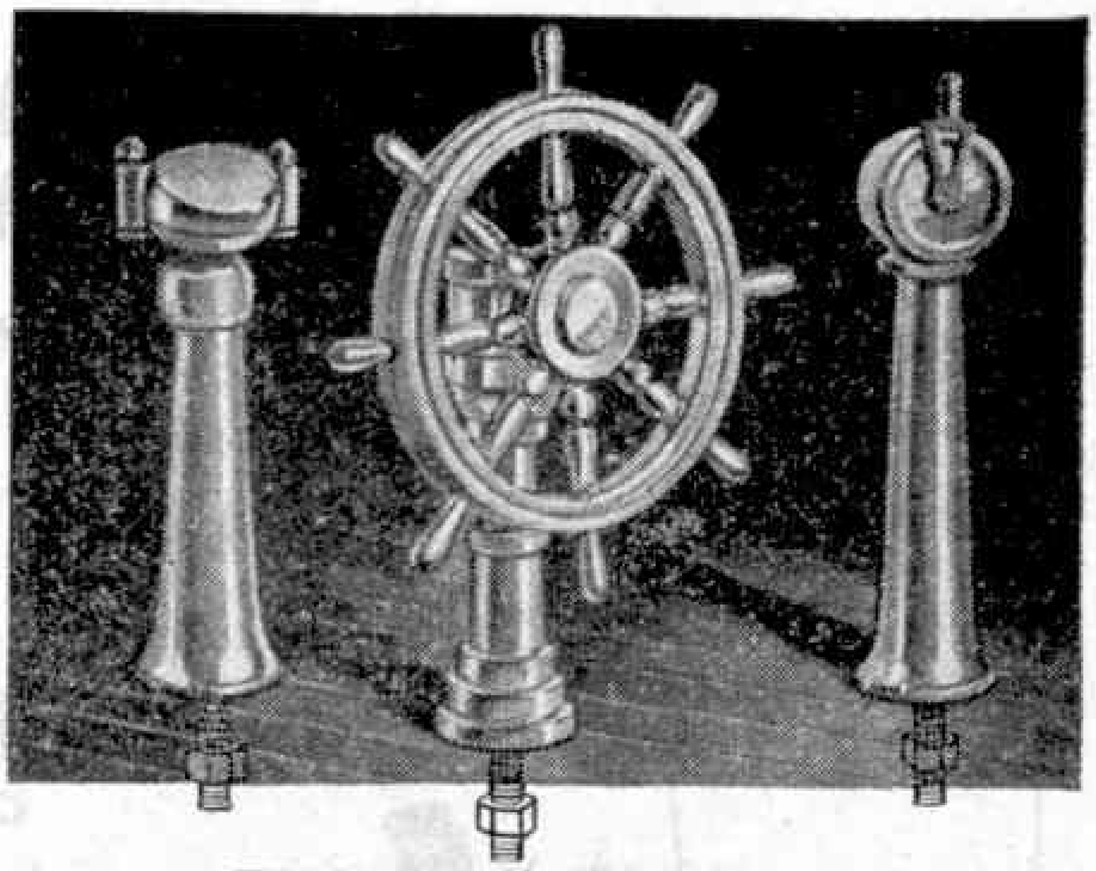

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WE NOW OFFER FROM STOCK a range of over Fifty SHIPS' FITTINGS in two sizes (1/8 in. scale and 3/16 in. scale), beautifully finished and ready for easy assembly.

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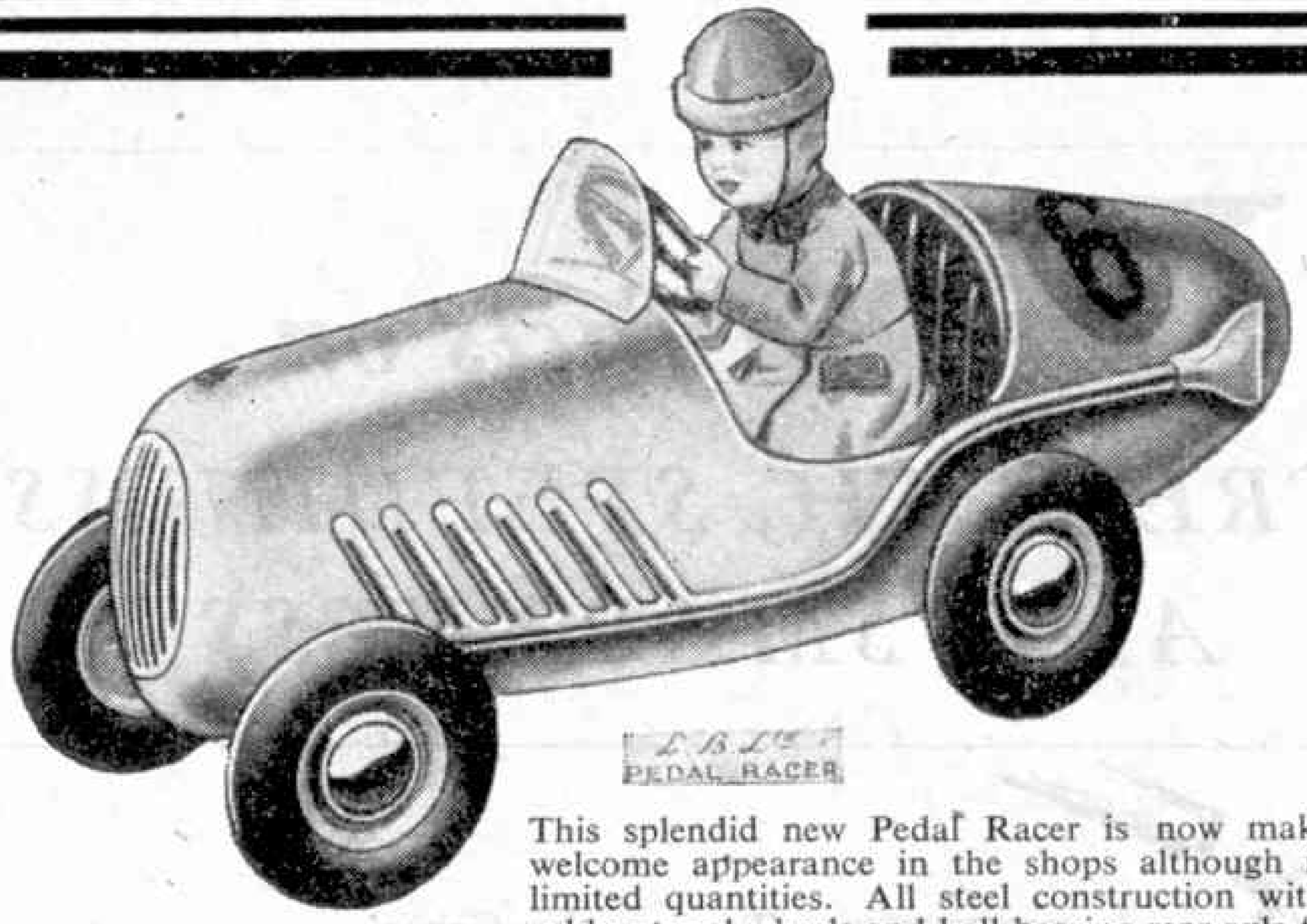

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Regd. Trade Mark

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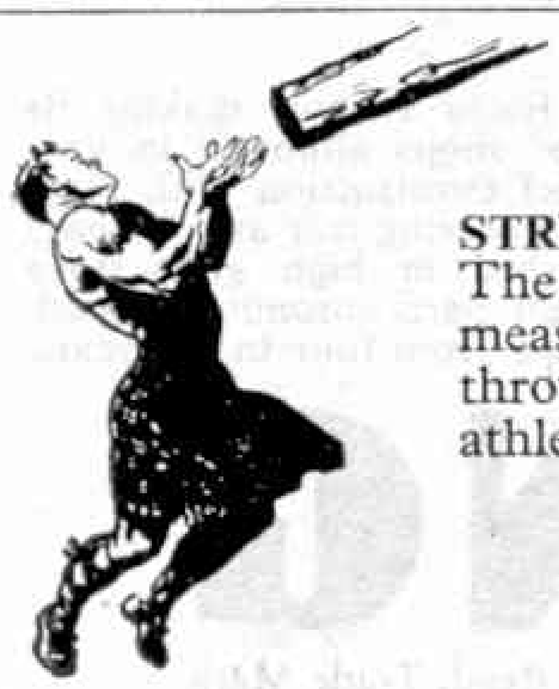

STRENGTH Tossing the Caber. The caber, a heavy tree trunk measuring 16 to 20 ft. has been thrown over 40 feet by Scottish athletes.

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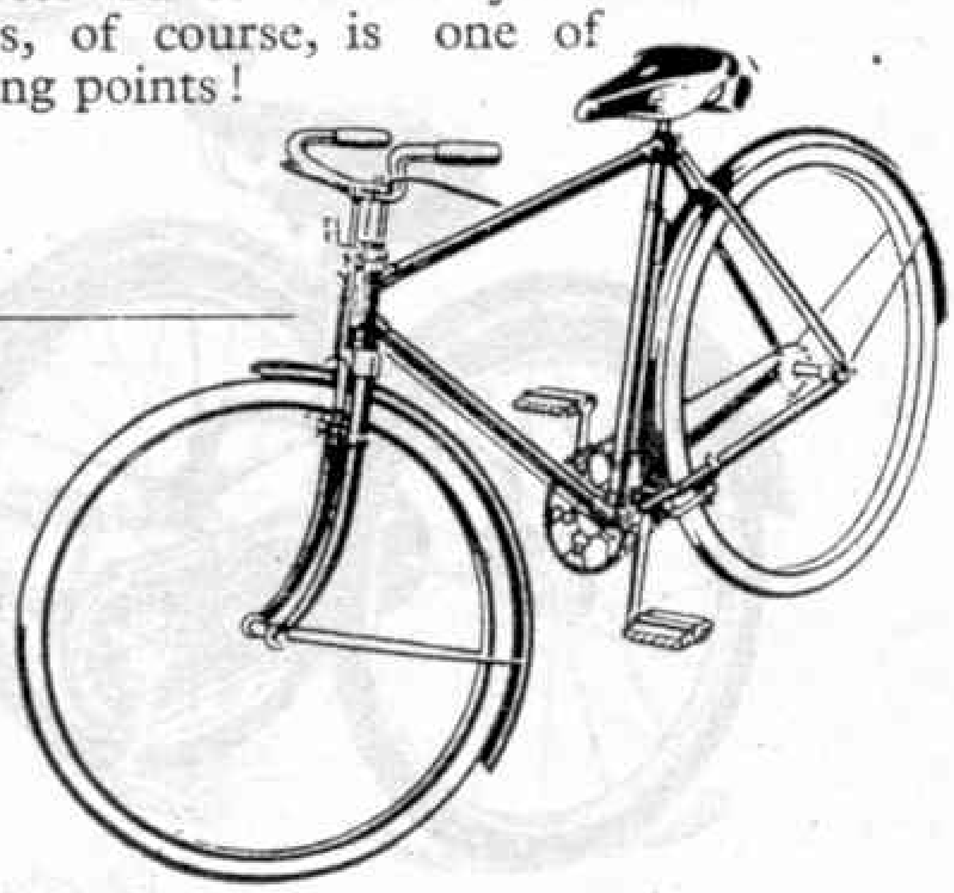

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Next Month: "A NEW BLUE FUNNEL LINER." By Denis Rebbeck, M.A.

MECCANO MAGAZINE

Editorial Office:
Binns Road
Liverpool 13
England

Vol. XXXIII
No. 4
April 1948

With the Editor

Britain Does it Again

Almost before the ink was dry on last month's Editorial page, Squadron Leader Waterton's fine new airspeed record over a 100-kilometre closed circuit had been beaten by another British pilot, Lieutenant Commander "Mike" Lithgow, flying a Vickers-Supermarine "Attacker" jet-fighter.

Flying from Chilbolton airfield on 26th February, Lithgow raised this international record to 560.6 m.p.h. using a perfectly standard "Attacker," complete with full operational equipment including guns. Next day he exceeded his own record in the same aircraft with a speed of 564.8 m.p.h.—a very fine performance.

Scrap Only in Name

Nothing that is generally called scrap is really scrapped in large industrial establishments. The motor car industry provides striking examples of this. For instance the Austin Motor Co. Ltd. had to deal last year with 27,000 tons of scrap, and none was wasted. Stampings and borings yielded unwanted steel that if made into a strip 1 in. in width and $\frac{1}{8}$ in. in thickness would have been long enough to go right round the world and leave some over, and all of this passed back into use. There was enough scrap aluminium and light alloys to build 58 pre-fabricated houses; it was not actually employed for this purpose, as the reclaimed metal was used in motor car construction. Even oil is not wasted, and the amount reclaimed during the year would have run a double-decker bus five times between London and Tokio.

The record for other materials is no less striking. These included 80 tons of waste paper sent away for re-pulping, and tons of scrap leather, some of which could be used in the manufacture of boots and shoes. Even bits of leather not suitable for this purpose were not wasted; they were converted into artificial fertiliser. Good use also was found for scrap carpet material, which found its way into the making of toys, polishing pads and the inner soles of slippers, while smaller pieces were pulled apart to give a felt that could be used in the factory.

* * * *

It is interesting to note that most of the various novelties in the London Midland engines referred to on page 116 are designed to secure easier handling on the road and in the sheds, with reduced attention and greater mileage between repairs.

The fourth and final article of the series "Oil For Britain," has been unavoidably held over this month, but it will be included in the May "M.M."

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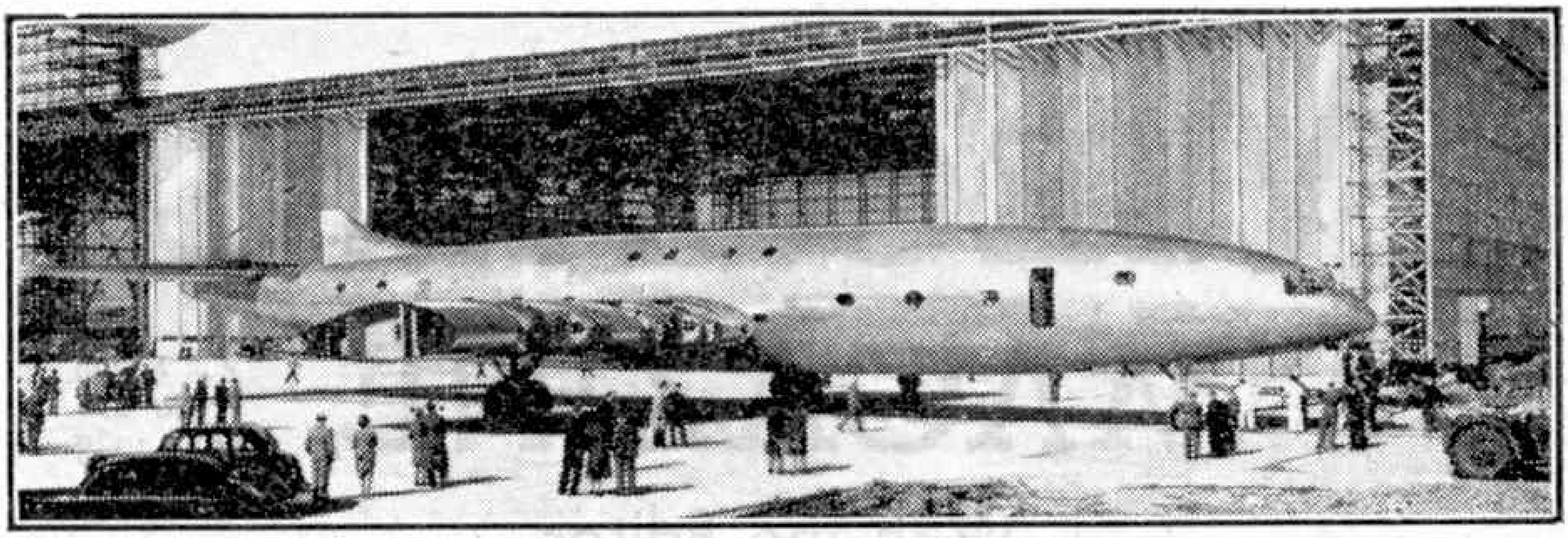


The fuselage of the Bristol "Brabazon" outside the hangar which has been built to accommodate this huge aircraft. Photograph by courtesy of The Bristol Aeroplane Co. Ltd.

Queens of the Skyways

By John W. R. Taylor

INSIDE an enormous silver hangar by the water's edge at Cowes I saw recently the past, the present and the future of flying boat design. Parked unobtrusively in a corner was a "Sea Otter" amphibian, last of a long line of sturdy, reliable biplanes dating back to 1922. Standing in its bows I looked down at the Saunders-Roe SR/A1 jet fighter flying boat, fastest water-borne aircraft in the world to-day. Beyond, half hidden beneath a jungle of steel scaffolding, the silver-grey hull of a future queen of the skyways, the Saunders-Roe SR/45, was taking shape beneath the machine-gun chatter of the riveters.

About 75 miles to the North-West of Cowes—ten minutes' flying time for the SR/A1—the finishing touches are being given to another giant aircraft, the Bristol 167 "Brabazon." It is the biggest landplane ever built in this country, just as the SR/45 is the biggest flying boat. Together they symbolise the determination of the British aircraft industry to regain its supremacy in the design of fine air liners, the loss of which was the price it had to pay for building the fighters and bombers that won the war in the air.

The prototype "Brabazon" I should be ready for flight sometime this Summer, but the first SR/45 will not be completed until the end of next year. Both will need a lot of careful development work and flight testing, so it is highly improbable that either will be in airline service until 1951. But, even then, they will undoubtedly be in advance of any other air liners in the world.

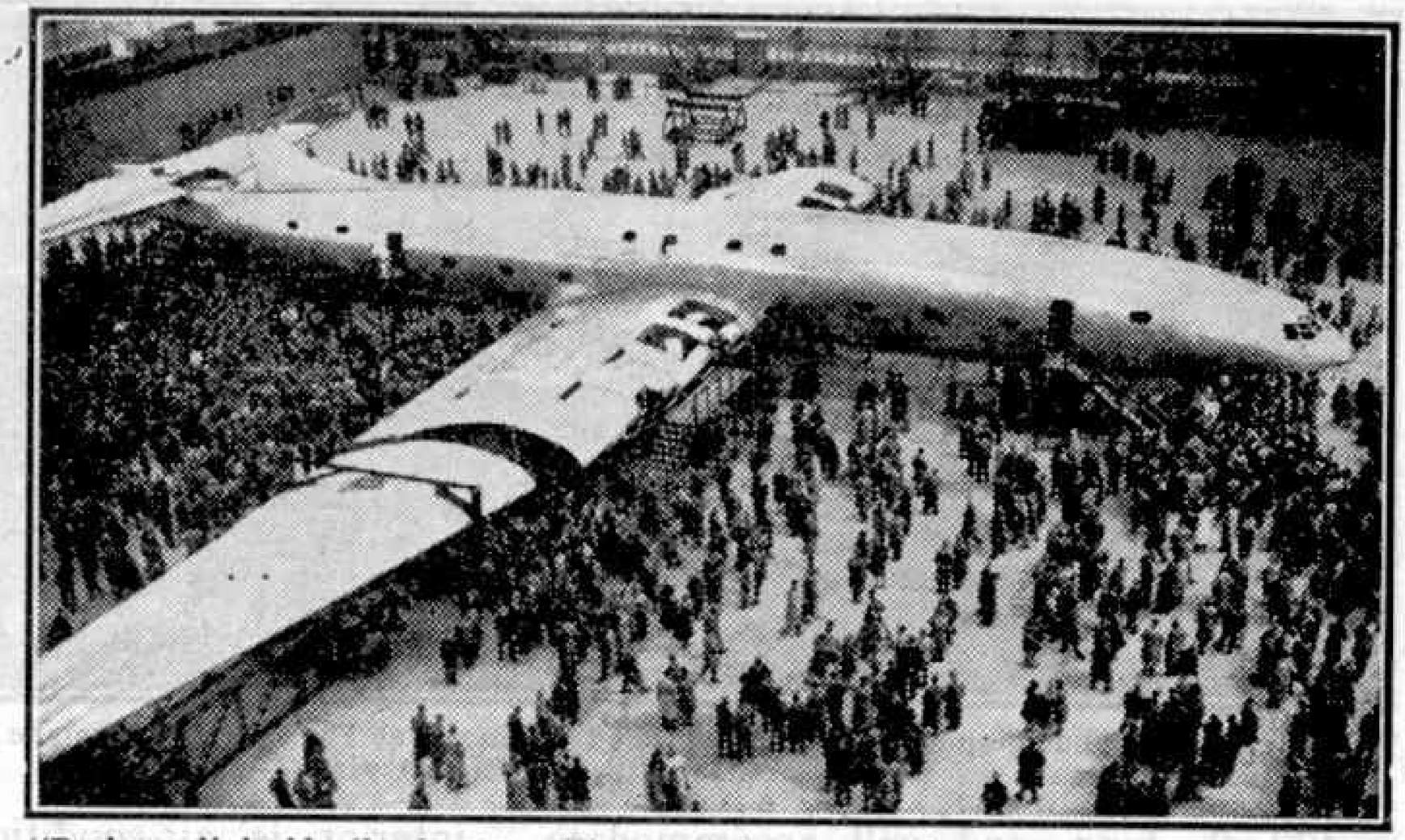
The story of the "Brabazon" began more than five years ago, in December 1942, when a Government Committee under the chairmanship of Lord Brabazon was set up to consider specifications for civil aircraft needed to meet the requirements of British post-war civil aviation. The Committee recommended the development of seven different types, the biggest of which was to be the Bristol 167, intended primarily for operation on B.O.A.C.'s non-stop transatlantic service.

The original contract called for five Bristol 167s—a prototype (now known as the "Brabazon" I) with eight "Centaurus" piston-engines, and four production machines ("Brabazon" IIs) with "Proteus" propjets.

For some reason or other the Brabazon Committee made no recommendations for new flying boats. This was disappointing in view of the splendid record of service achieved by the Short Empire boats, which pioneered transatlantic airline service, successfully operated the pre-war Empire airmail scheme and established an almost unprecedented record for safety and regularity. Britain has always led the world in flying boat design, and experience has shown that many passengers prefer a somewhat slower, more comfortable flight by flying boat to a "cannon-ball" journey by high-speed landplane. But the fact remains that the Brabazon Committee did not feel the call of the sea!

Fortunately, the flying boat designers decided to do something about this, and shortly after the war ended Saunders-Roe submitted to the Ministry of Supply a specification for a large flying boat comparable in size and load-carrying capacity with the "Brabazon." They pointed out

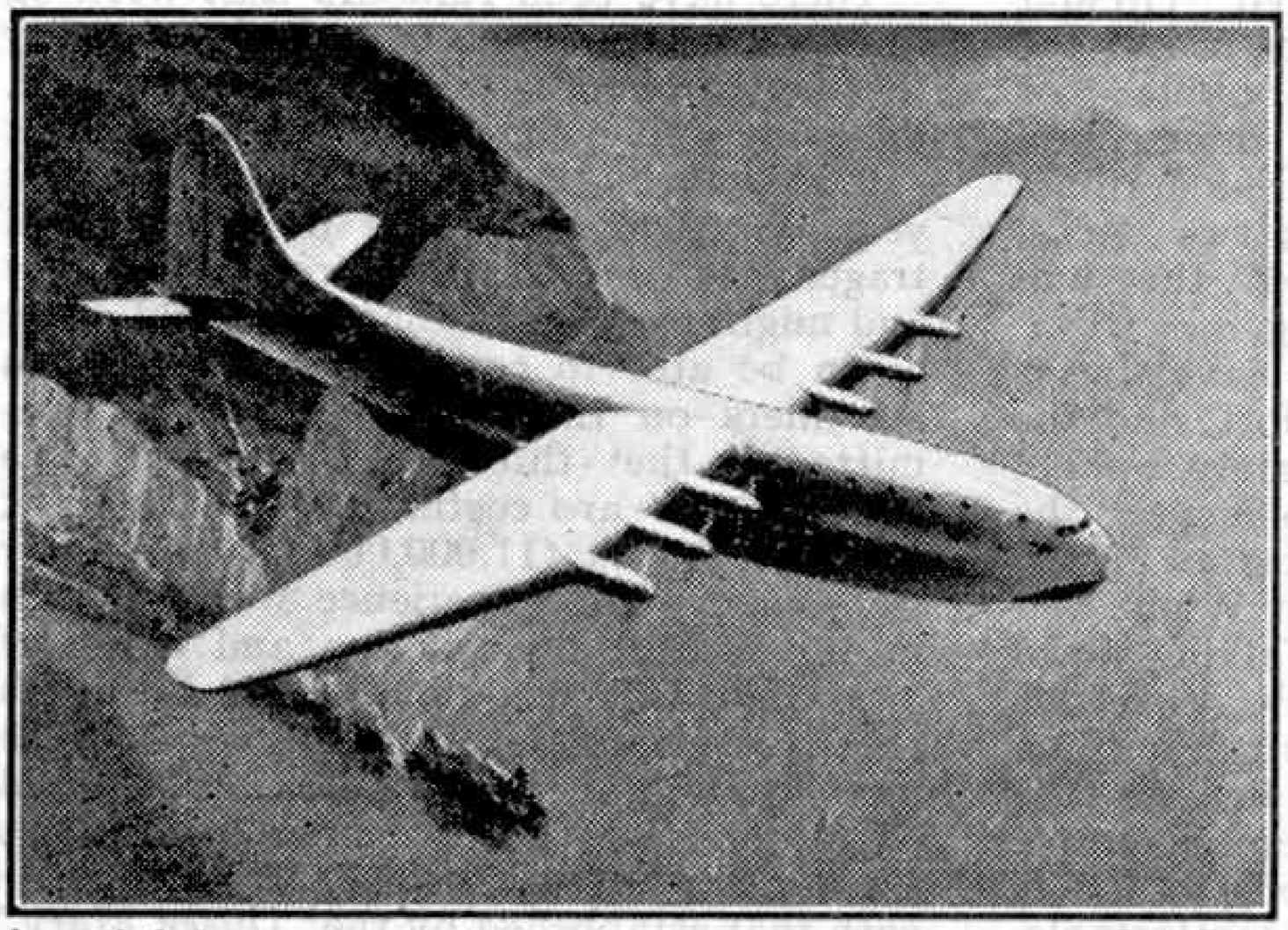
that a landplane becomes less useful as it increases in size, due to its need for ever-larger airfields; a flying boat on the other hand increases in efficiency as it gets larger, aerodynamically as well as in seaworthiness. The Ministry was convinced, and in May 1946 awarded Saunders-Roe a contract for three prototypes of the SR/45.



"Brabazon" inside the hangar. The spectators serve, by comparison, to emphasise the great size of this new air liner.

So to-day we have these two different types of giant air liners building in Britain, each outstanding in its class. As a result, most people seem to believe that in a couple of years' time there will be a "battle of the giants" over the Atlantic, a landplane v. flying boat struggle, with one type emerging victorious and the other sinking into oblivion. In fact, such a situation would be tragic, for much more will be achieved by both types working together. The business man for whom time is money will want to get to his destination as quickly as possible; for him the "cannonball" landplane service is essential. But for the man who is not in quite so much hurry, and who likes the luxury of a private stateroom, the flying boat will win every time.

Even if the "Brabazon" and SR/45 prove to have approximately the same cruising speed, the former will give a better city-to-city time over the Atlantic, as it is some distance from both London and New York to the nearest flying boat bases. Against this, there will be very few aerodromes in the world large enough to accommodate the "Brabazon," either from the point of view of runway length or runway strength, for each landing wheel of this aircraft supports a very great weight. In comparison the flying boat will be able to operate from almost any sheltered stretch of water, and stands a reasonable chance of survival until help can reach it in the event of a forced landing in the open sea. The case of the Boeing *"Bermuda Sky Queen"* which forced landed in mid-Atlantic in October 1947 proved that point.



An artist's impression of the Saunders-Roe SR/45 six-engined flying boat.

The "Brabazon" and SR/45 are very similar in size and payload. The 140-ton SR/45 will have a span of 220 ft., a length of 148 ft., and will carry up to 140 passengers, although provision will normally be made for 100. It will be powered by ten 3,500 h.p. Bristol "Proteus" propjets, giving it a maximum still air range of 5,500 miles at over 350 m.p.h. The "Brabazon" weighs 126 tons, has a span of 230 ft.,

The "Brabazon" photographed during the naming ceremony at The Bristol Aeroplane Co.'s works, Filton, on the 8th October last year.

is 177 ft. long, and will accommodate 70–100 sleeping passengers or 120 sitting passengers. The eight "Proteus" propjets of the Mk. II will give it approximately the same performance as the SR/45, but the piston-engined prototype, which is intended purely as a research aircraft to iron out any "bugs" in the design, will be a good deal slower.

In the "Brabazon" the engines are arranged in pairs, each driving one propeller of a 16 ft. dia. contra-prop. A similar arrangement is used for the two inner pairs of engines on each wing of the SR/45, but the outer engine on each wing is a single unit.

Both aircraft will have pressurised cabins, to permit operation at heights of up to 40,000 ft. in the case of the SR/45, in perfect comfort for the passengers. To facilitate pressurisation, the "Brabazon" has a beautifully-streamlined circular fuselage; but the SR/45 makes use of the popular American "double-bubble" or figure-8 section fuselage, the intersection of the two circles of the figure-8 forming the floor of the upper of its two decks, with the planing bottom of the hull attached under the whole thing.

British passenger transports have always been renowned for their comfort, and the "Brabazon" and SR/45 certainly uphold this tradition. I was able to inspect the full-size wooden mock-up of the SR/45 during my visit to the Isle of Wight and found it most impressive. Walking down a corridor on the lower deck, with two and four-berth cabins opening out on each side, it was difficult to believe that this was a flying boat. There is ample headroom everywhere, the cabins are wide, the reclining-type seats are comfortable, and as well as being pressurised the whole interior is air-conditioned. There is a beautifully fitted-out bar, a promenade deck, galley, and a rest room for those members of the crew off duty. Spiral staircases connect the two decks. The overall impression is of spaciousness and luxury; nowhere is there any impression of being cramped "like toothpaste in a tube," a feeling experienced by passengers in some present-day air liners.

The "Brabazon" offers a similar standard of luxury, although passenger and crew accommodation is arranged mainly on one deck, with a half-deck rise over the wing for a dining saloon, lounge bar, kitchen and servery. In the main cabin aft, provision will be made for a cinema projector and radio for passengers' entertainment, and a flight progress chart will indicate the actual geographical position of the aircraft throughout the flight.

There have been rumours that work on these giant air liners is to be stopped under the Government's economy programme, following public concern at the loss of over £10,000,000 by B.O.A.C. and B.E.A. last year. Such action would be a very real tragedy for the British aircraft industry and might even mean that we should never again be able to compete with American air liners on the world's skyways. Admittedly the three SR/45s and five "Brabazons" are costing a lot of money; one estimate is £11,000,000. It is money well spent. The experience we shall gain in the design, construction and flying of aircraft of this size alone would be worth the investment. But we stand to gain much more than that, for the "Brabazon" and SR/45 may well achieve supremacy in the skies over the North Atlantic comparable with that established by the *"Queen Mary"* and *"Queen Elizabeth"* on the seas below.

BOOKS TO READ

Here we review books of interest and of use to readers of the "M.M." With the exception of those issued by the Scientific and Children's Book Clubs, which are available only to members, and certain others that will be indicated, these should be ordered through a bookseller.

"INTRODUCTION TO WIRELESS"

By W. E. PEARCE, B.Sc. (Bell. 7/6 net)

The aim of the author of this book is to show how and why simple transmitting and receiving sets work. He explains wave motion, electrons and the various magnetic and electrical foundations of radio clearly and accurately, and then turns to the application of these principles in the use of the valve in transmitting and receiving circuits of all kinds. The whole subject is well covered. Only an elementary knowledge of mathematics is required to follow the descriptions and explanations, for the approach is chiefly experimental, making use of simple apparatus. The book ends with a special section on the cathode ray tube and its various applications, including television, and a brief section on radar.

The diagrams that are necessary in a book of this kind are clear and adequate and there are 175 of them, with several half-tone illustrations.

"BRITISH RACING CARS"

By C. POSTHUMUS

(Vitesse Publishing Co. 3/9)

This is a survey, in 18 very large pages, of 40 years of British endeavour in the sport of motor racing. It gives concise details of famous cars that have carried British racing colours at home and overseas since 1900, when Britain's first racing car, the Napier, achieved undying fame by winning the 1902 Gordon-Bennett trophy.

The pages of the booklet bring back to memory the Sunbeams, Vauxhalls and other famous makes of the past. Among the greatest of these were the Bentley, which won the Le Mans 24-hour race five times, and the E.R.A., which established British supremacy in light car racing. The stories of all these, and of the M.G., the Frazer-Nash, the Riley, the Alta and other famous makes are briefly but competently told, and finally comes an impressive list of international motor racing successes by British cars. Each make dealt with is illustrated by an excellent photograph of an actual race.

The booklet can be obtained from the Vitesse Publishing Co., Green Street, Sunbury-on-Thames, Middlesex, prices 3/9 including postage.

"ABC OF BRITISH AIRCRAFT MARKINGS"

By O. G. THETFORD

(Ian Allan Ltd. 2/– net)

With this publication the scope of the now well-known series of ABC booklets is extended to reach aircraft enthusiasts. It will be mainly of interest to those who live in the vicinity of, or frequently visit, airports and aerodromes, and thus have many opportunities of noting the registration letters of civil aircraft.

The main part of the booklet provides the answer to the question "Whose aircraft is that?" as it contains a complete list, corrected to the time of going to press, of every civil aircraft in Great Britain, together with its owner or operator's name and, in most instances, its home aerodrome. Machines are listed according to type, and the types are arranged in alphabetical order. Other sections deal with Service aircraft and with prototypes and experimental machines. The latest regulations on standard R.A.F. colour schemes are included. There are 40 excellent half-tone illustrations.

Copies of the book can be obtained from Ian Allan Ltd., Mail Order Department. 33, Knollys Road, Streatham, London S.W.16, price 2/2½ post free.

"DIESEL MODEL ENGINES"

By LT.-COL. C. E. BOWDEN, A.I.Mech.E.

(Percival Marshall. 5/– net)

Constructors of power-driven model aircraft, motor cars and boats will find this handbook packed with sound information and practical advice on its subject. The author explains in detail the principle and working of the model diesel engine, shows how "snags" can be overcome and describes current British and Continental miniature diesels. Later chapters deal with fuel and lubrication, how to start a model diesel engine quickly—a point of great importance to entrants in power-driven model competitions—and how to obtain the greatest efficiency in operating and controlling the model in which it is fitted. Finally the author describes and illustrates a variety of experimental diesel-engined model aircraft, boats and cars.

The many fine half-tone photographs of complete models and parts in the book are supplemented by good drawings of structural details.

"MY BEST RAILWAY PHOTOGRAPHS"

No. 6, By S. C. TOWNROE; No. 7, By H. C. CASSERLEY

(Ian Allan Ltd. 1/6 each)

Each of these recent "Photographs" booklets represents a selection of railway scenes as caught by the cameras of the respective authors. Photographs by each of these camera artists have frequently been reproduced in the *"M.M."* Here they give details of their methods that are of interest not only to the budding camera man, but also to the more experienced. The various photographs reproduced are representative of each author's approach to the subject. Those in *"No. 6"* include some intimate locomotive studies representative of work on the line, while Mr. Casserley's selection includes some rare or obsolete locomotives.

Copies of the booklets are obtainable from Ian Allan Ltd., 282, Vauxhall Bridge Road, London S.W.1, price 1/8½ each, including postage.

"THE RIGHT WAY TO UNDERSTAND THE COUNTRYSIDE"

By STANLEY A. MANNING

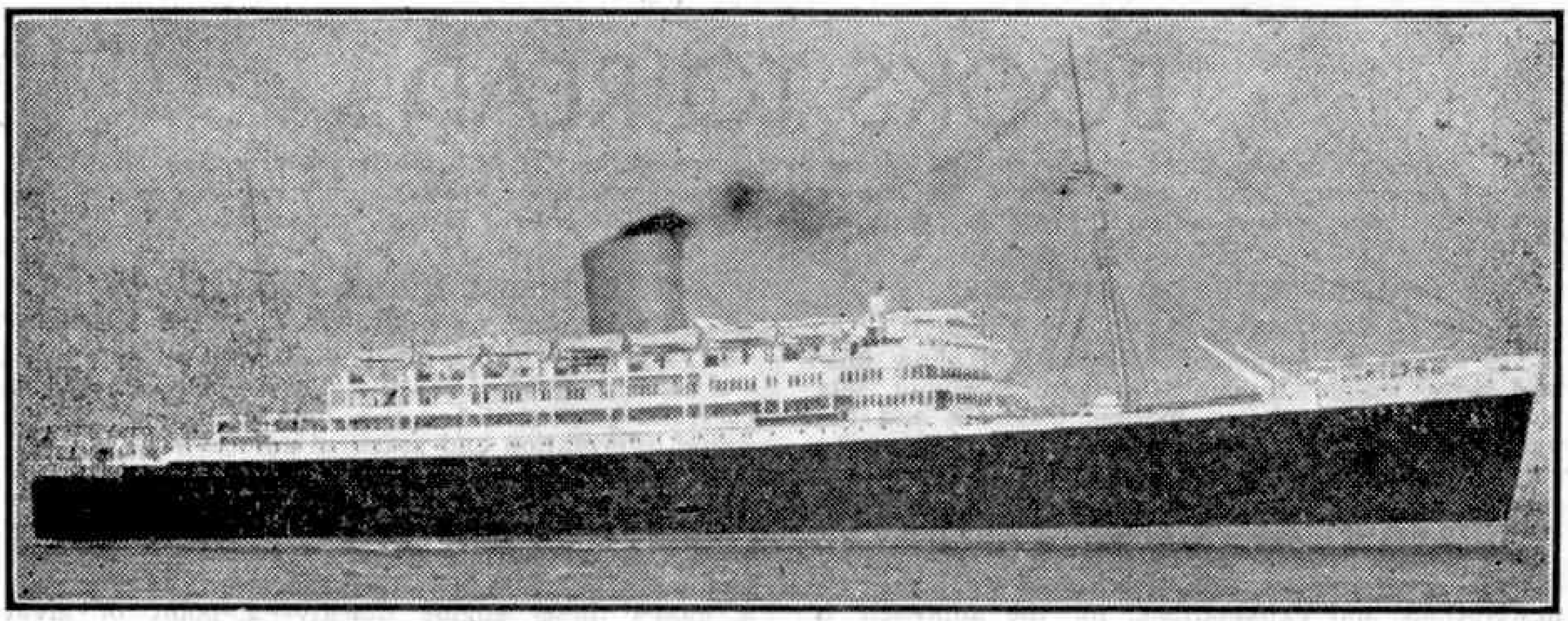
(Elliott. Price 5/– net)

This volume in the "Right Way Books" is meant to tell its readers about the fish, birds and animals, the flowers, plants and trees that are commonly met with in the countryside. It also deals at some length with the people who live in the countryside and with their customs and folk lore. The story is well illustrated by means of a delightful series of drawings by Elaine Hancock, chiefly of animals and birds, and these are supplemented by four splendid photographs of characteristic countryside scenes in which different types of trees are prominent. Finally there is a useful section on the best way to see the country and on learning more about the subjects that are dealt with all too briefly in the present volume.

"SILAS CRAGGS"

By COLIN DAVEY (Duckworth. 2/6 net)

Silas Craggs is a little rascal of a dog, and in his life story he gives a dog's view of his surroundings until the time when he settles down with a wife and family of his own. Adventures in the woods and fields, fun with dog friends and fights with enemies, and a few startling adventures make up a very readable little yarn, which should be thoroughly enjoyed by most readers of the *"M.M."*



The Royal Mail Liner "*Andes*"

By Denis Rebbeck, M.A., M.Sc., B.Litt., M.I.N.A.

THIS month's cover picture shows the Royal Mail Liner "*Andes*," the largest and fastest liner in the South American service. This beautiful ship has a gross tonnage of 25,689 and a service speed of 21½ knots. Although the vessel only sailed on her maiden voyage from Southampton on 22nd January this year, she was completed and ready to sail on 26th September, 1939. The exigencies of war, however, diverted her to sterner tasks, and all through the war years this Royal Mail flagship sailed the seven seas as a troop transport. When the war finished the "*Andes*" continued to sail as a "trooper" until the spring of last year when she returned to her builders, Harland and Wolff Ltd., Belfast, to be reconverted into the luxurious liner which almost nine years before was to have celebrated the centenary of the foundation of the Royal Mail Steam Packet Company.

The principal particulars of this splendid steamship are as follows: length overall 669 ft. 3 in., length between perpendiculars 630 ft., breadth moulded 83 ft., depth from keel to "C" deck 47 ft. 6 in., draft loaded 29 ft. 3 in., deadweight 10,257 tons, trial speed 23 knots, insulated cargo space 133,200 cu. ft., and uninsulated cargo space 186,000 cu. ft.

The main propelling unit consists of a two-shaft arrangement of Parsons' triple expansion, single reduction geared turbines designed for a total power of 30,000 S.H.P. at 140 r.p.m. at the propeller. Steam for the main engines and the turbo-generators is supplied by three Babcock-Johnson water-tube boilers constructed for a maximum blow-off pressure of 485 lb. per sq. in. at the steam drum and 430 lb. per sq. in. at the superheater outlet. One Howden-Johnson type auxiliary boiler provides steam for auxiliary duties such as ship's heating and cooking and oil fuel heating.

The power for the electrically-driven auxiliaries and the electrical services is provided by three 1,000 kw. turbo-generators and two 500 kw. diesel generators. There is, in addition, a 100 kw. emergency diesel generator.

The first-class accommodation, which provides for 324 passengers, exemplifies a careful study of the needs of present-day travellers. Every cabin has either a private bathroom or a shower room. All are equipped with the most up-to-date type of cot beds and every possible provision has been made for the convenience and comfort of the passenger. A trip through the accommodation of this fine vessel is rather like a journey into fairyland!

The first-class Dining Saloon is a spacious air-conditioned room situated on "B" Deck and is 100 ft. long by over 80 ft. wide and has seating accommodation for 360 passengers. Along the port and starboard sides, portlights, in groups of six, are screened by inner vertical sliding metal windows of tinted and sand-blasted glass. These decorated windows are lit by concealed lighting, as is also the whole of the lower portion of the saloon. In the centre, the saloon has been taken up to the height of the ceiling of the deck above, and into this an orchestra gallery has been designed.

The Grand Hall, one of the principal

rooms both in size and character of design is situated on "F" deck. It is intended mainly for use as a day lounge, but it is also used for dancing and has, in fact, been specially designed as a cinema theatre. There is also a permanent stage behind the screen, fitted with complete arrangements for special lighting and scenery effects so that anything from a cabaret to a stage play can be produced.

The Children's playroom has the appearance of a Pirate Ship with its bridge and bulwark, above which the artist has given the impression of sea and sky. An aquarium, a slide and an abundance of toys make this a very popular place for the children.

There are also fine stairways and entrances, a cocktail lounge and hairdressing saloons for ladies and gentlemen. The first-class swimming pool is 30 ft. long by 20 ft. wide and is specially designed to control the surge of water. The first-class gymnasium is fully equipped with all kinds of gymnastic devices.

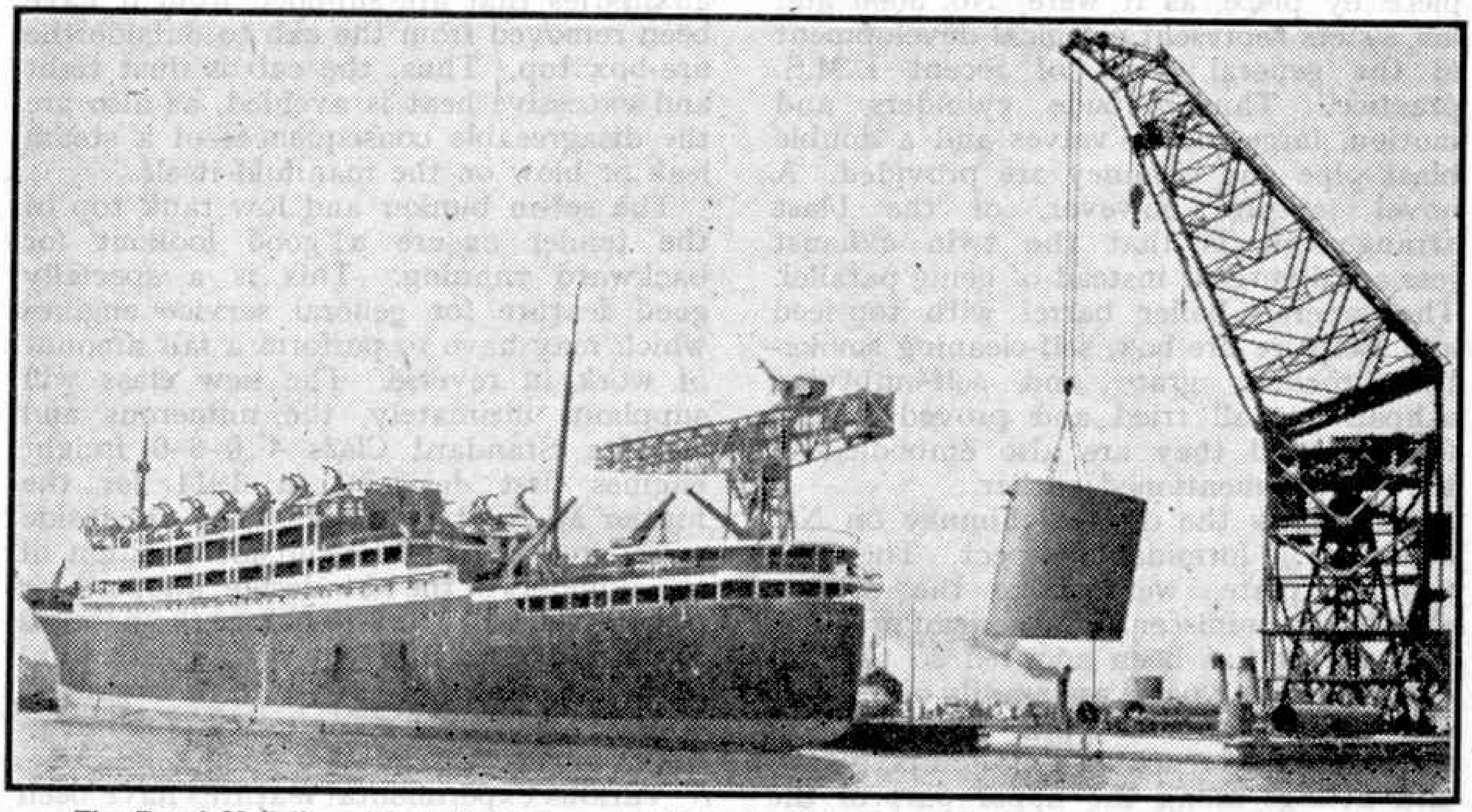
There is not space in this short article to describe the second-class accommodation; suffice it to say that the needs of the 204 second-class passengers have been studied in the most careful manner.

The design of the "*Andes*" has received very careful consideration and the graceful lines of her hull, the raked rounded stem, the cruiser stern and the well-balanced superstructure with rounded bridge front and streamlined funnel give the vessel an appearance of grace and power.

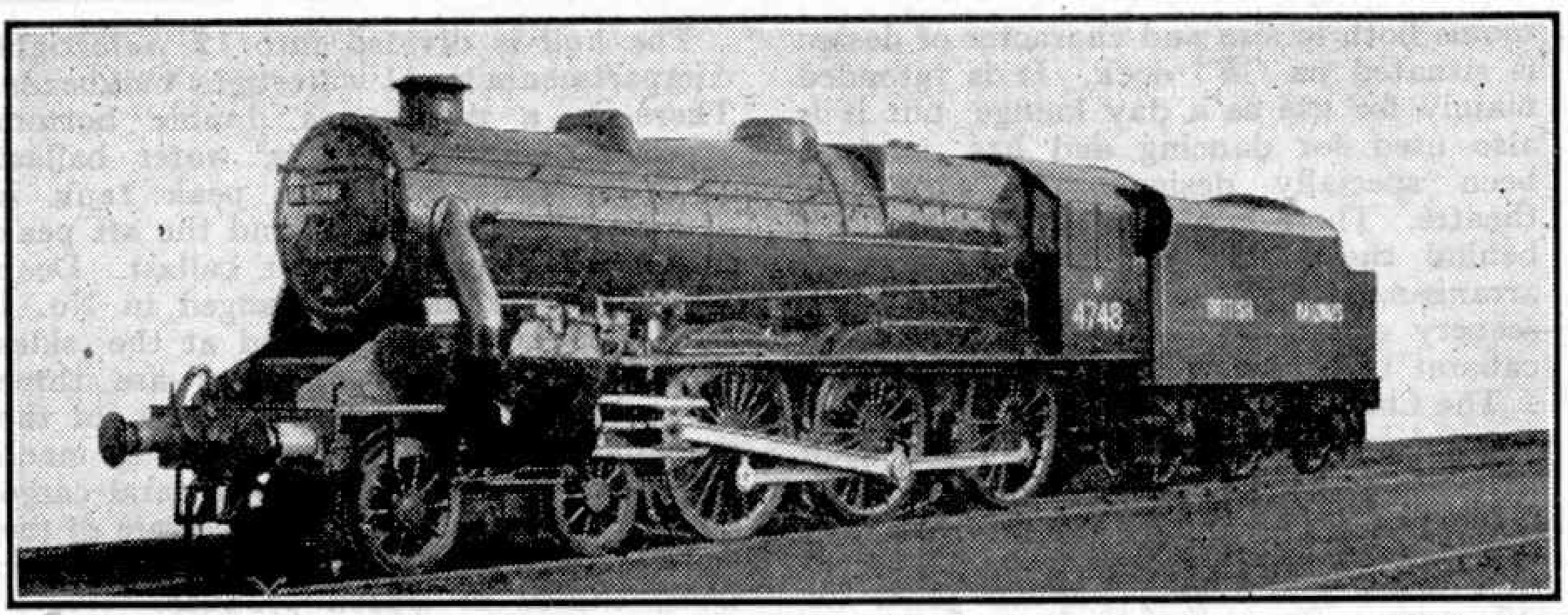
The hull is divided into 12 watertight compartments by 11 watertight bulkheads. There is a continuous double bottom arranged for fresh water, water ballast and oil fuel. The fore peak tank is arranged for fresh water and the aft peak tank for oil fuel or water ballast. Deep fresh-water tanks are arranged in No. 1 hold and also between and at the sides of the shaft tunnels. There are three cargo holds forward, and two aft, of the machinery space. Arrangement is made for the carriage of ordinary general cargo and refrigerated cargo, while certain of the compartments are specially equipped for fruit, chilled or frozen produce.

The cargo hatches at Nos. 1, 4 and 5 holds are served by electric cranes and those at Nos. 2 and 3 holds by six tubular steel derricks worked by six electric winches. A powerful electric windlass and two warping capstans are fitted on the forecastle and two electric warping capstans aft. The vessel has a streamlined semi-balanced rudder operated by electro-hydraulic steering gear controlled by telemotor from the bridge. A gyro compass equipment has been installed, including automatic steering. The propellers are made of bronze and are of Harland and Wolff's own design and manufacture. They are solid three bladed, aerofoil section and streamlined, the diameter being 18 ft. 6 in.

Sufficient has been said to make it apparent that the "*Andes*" is a particularly fine vessel.



The Royal Mail liner "Andes" fitting out at Belfast. Note the ship's funnel and the floating crane.



One of the new 4-6-0 locomotives with poppet valves and gear. This design has been developed from the familiar Class 5 4-6-0 of the former L.M.S. (London Midland Region photographs).

Recent London Midland Locomotives

By "North Western"

IN *"Railway Notes"* last October brief details were given of the immediate locomotive building programme on the L.M.S., as it then was. Recent privileged inspection at Crewe Works at the invitation of London Midland authorities of newly-built 2–6–0 and 4–6–0 engines provided much information of considerable interest.

The external aspect of the new Class 4 general freight 2–6–0 is striking, as the illustration of No. 3000 on page 104 of the *"M.M."* last month showed. Yet when we come to weigh up the engine piece by piece, as it were, No. 3000 and her sisters represent a logical development of the general trend of recent L.M.S. practice. Thus outside cylinders and motion, large piston valves and a double blast pipe and chimney are provided. A novel feature, however, of the blast arrangement is that the twin exhaust jets are divergent instead of being parallel. The tapered boiler barrel with top-feed and Belpaire fire-box, self-cleaning smoke-box, rocking grate and self-emptying ashpan are all tried and proved L.M.S. features and they are also embodied in the 4–6–0s mentioned earlier.

Externally the double chimney on No. 3000 has a formidable aspect. The high running plate, well above the driving wheels, is reminiscent of American practice. Actually it has been adopted so that all outside moving parts are readily accessible; also it provides the shed staff with an easy means of reaching pipe joints, glands and fittings along the upper part of the engine. The whole engine in fact has been laid out for easy, efficient operation and maintenance, so that the greatest possible amount of service may be secured.

Duplicated pull-out regulator handles on each side of the cab work the regulator valve through an external rod and there are twin brake application valves. The footplate as a whole is well enclosed, for the tender is provided with a cab and there are the usual side doors. The spectacle windows fore and aft are set at an angle to improve the lookout. The steam manifold and the pipes to the various auxiliaries that are supplied from it have been removed from the cab to outside the fire-box top. Thus, the cab is dust tight and excessive heat is avoided, as also are the disagreeable consequences of a steam leak or blow on the manifold itself.

The set-in bunker and low tank top of the tender ensure a good lookout for backward running. This is a specially good feature for general service engines which may have to perform a fair amount of work in reverse. The new class will supplant, ultimately, the numerous and familiar Standard Class 4 0–6–0 freight engines first designed in 1911 for the former Midland Railway. They are inside cylinder engines. The outside position of the cylinders of the new design, adopted for easy accessibility and to reduce the possible axlebox trouble inherent with inside cylinders, has caused the 0–6–0 to be expanded to the 2–6–0, the leading radial truck helping to make the engine a good riding one.

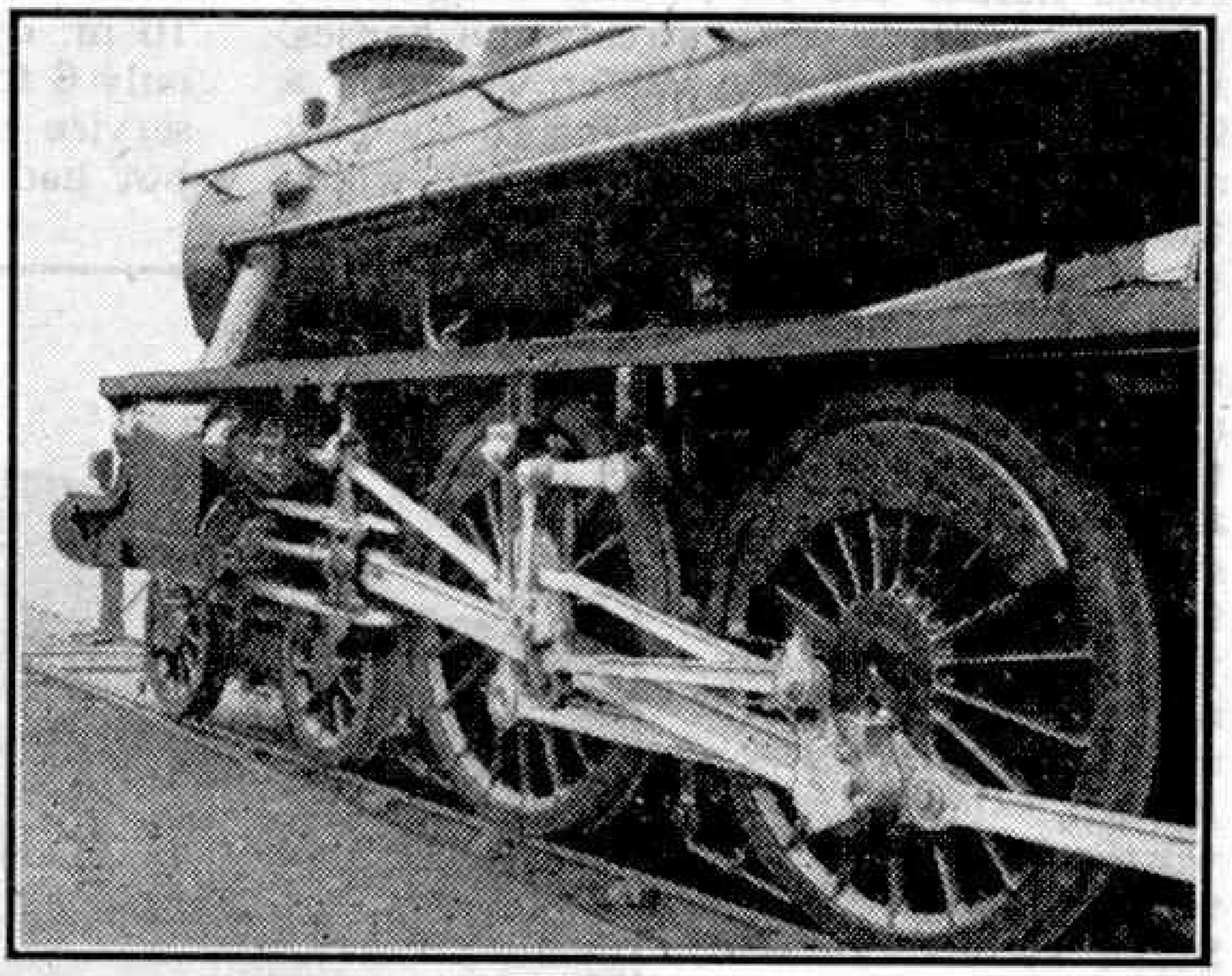
Various experimental features have been introduced in each of three batches of 10

of the well-known "Black Staniers" or Class 5 4–6–0s. The main idea is to increase the mileage of the engines between shoppings and to reduce maintenance, while the performances and costs are being specially observed.

The possible advantages of poppet valves and gear are being investigated in 20 engines. Ten of these engines, Nos. 4738–47, have normal bearings; the other ten, Nos. 4748–57 having roller bearings. The application of poppet valves with shaft drive inside the frames from the leading coupled axle in place of the familiar outside Walschaerts motion has somewhat modified the typical Class 5 appearance, as the illustration of No. 4748 shows. The running plate has been lowered and splashers are fitted. The outside steam pipes emerge prominently from the smokebox well forward in order to feed into the cylinders at the most advantageous point. In fact, in providing for this British Caprotti poppet valve gear, the locomotive has been redesigned to suit the gear rather than the gear adapted to the existing engine, which is a wise plan.

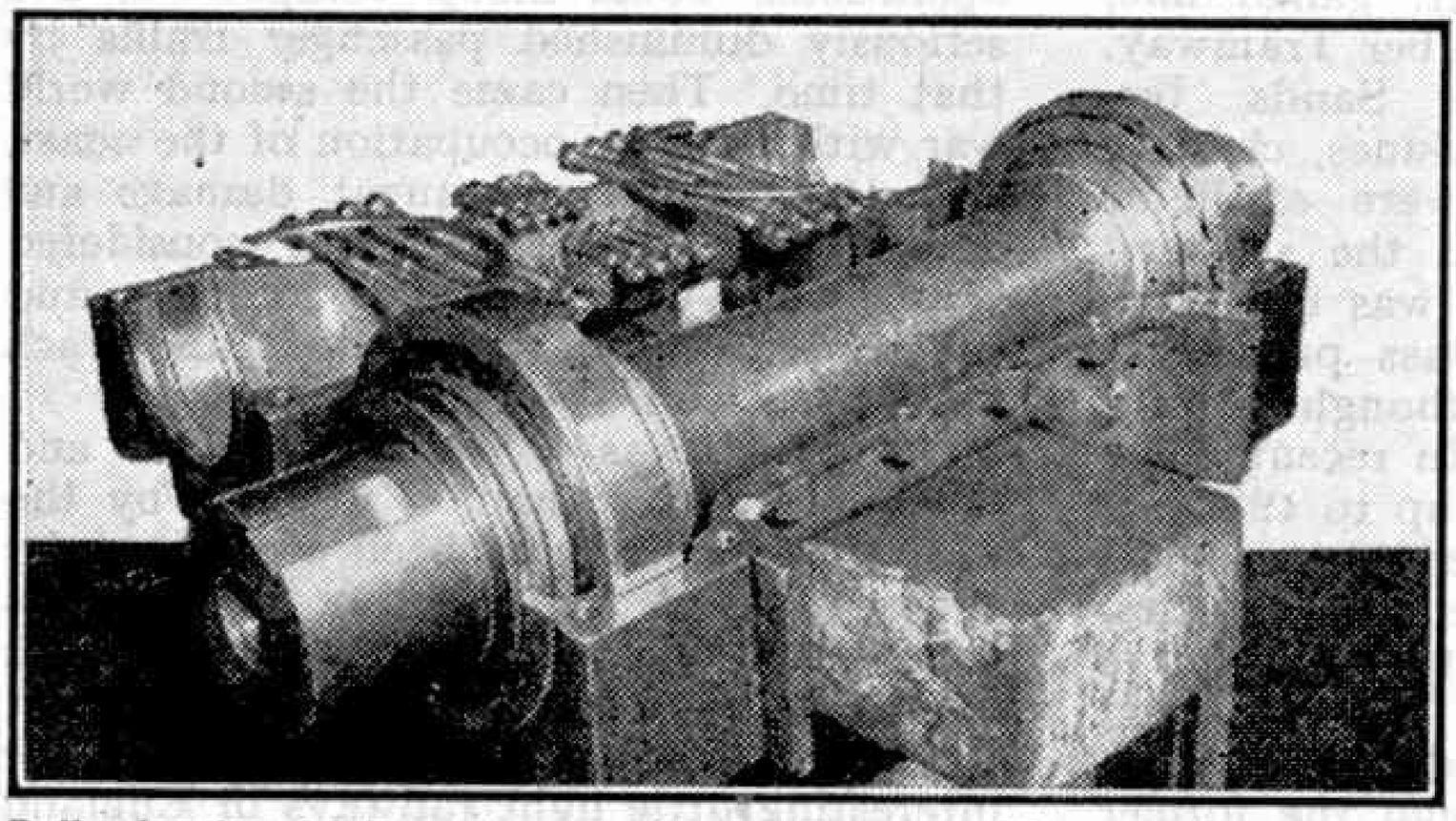
The same number of turns of the reversing handle in the cab are required to move the gear from full forward to full reverse as with the standard type of motion. From the maintenance point of view, inspection of the poppet valves is aided by special arrangements for removal of the camboxes above each cylinder. These are arranged to slide outward on to a temporary platform that can be attached to the engine undergoing attention.

The roller bearing assemblies are particularly interesting. The accompanying illustration of a coupled wheel axle bearing shows that these are of the "cannon" type, split horizontally to allow of assembly after the wheels have been pressed on to the axles. The bogie and tender axle boxes are of similar type but are individual bearings. Oil lubrication is relied on for all roller bearings.



The outside Stephenson link motion applied experimentally to a London Midland 4-6-0. A double chimney and electric lighting are other special features.

All engines of the final group have roller bearings, but piston valves are retained and on nine of them, Nos. 4758–66, the usual Walschaerts motion is employed. The tenth engine, No. 4767, embodies a valve gear experiment of considerable interest. Stephenson link motion outside the wheels, unusual in this country, has been applied in an ingenious manner. The effect of the two eccentrics normally employed is obtained by means of a double arrangement of return cranks. The valve travel in full gear is the same as on the Walschaerts engines, but the Stephenson motion gives increased port openings when linked up, and this feature is of considerable advantage when running fast.



Roller bearing driving axle assembly showing the split cannon-box arrangement housing the axle.

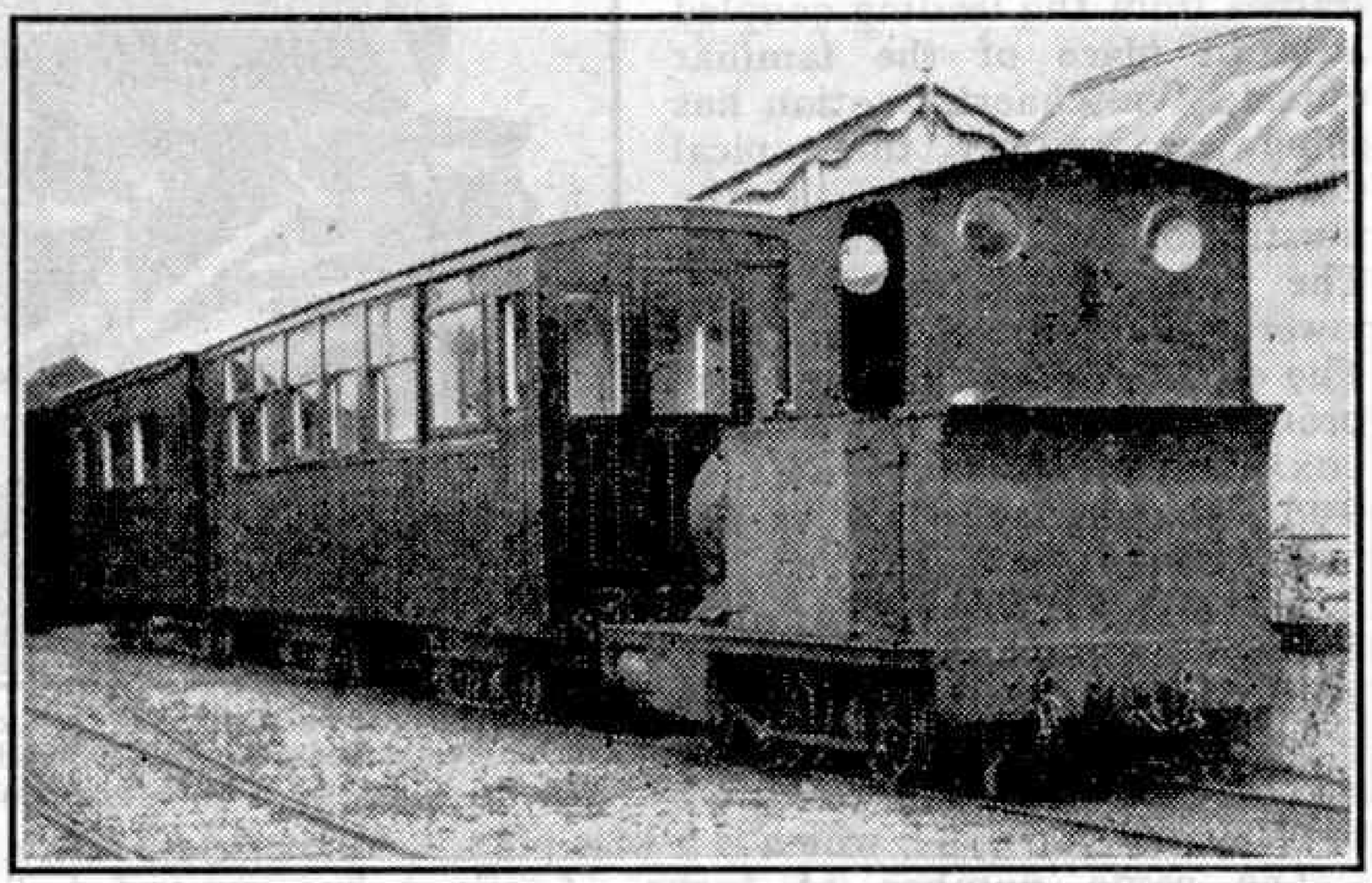
The Rye and Camber Tramway

By R. A. H. Weight

THE ancient Borough and Cinque Port of Rye in East Sussex is "a quaint little old fashioned town where the cobble stones harass the feet," still delightfully unspoilt in many of its streets and houses. It stands on a rocky hill crowned by a handsome church, overlooking to the east a wide vista of marshland through which the River Rother flows to the visible sea. Until between two and three hundred years ago the sea covered that stretch and flowed close to the stout walls of the town that have been the scene of many fierce battles with marauding Danes or French. Rye has a worthy maritime history of olden times. Small vessels can still come up to its quays by the river at high water.

On the marshes that merge into sand dunes a golf course has flourished for many years, while on the coast to the north, Camber Sands more recently have become popular with visitors, campers or bungalow dwellers. A small narrow gauge railway was opened in 1895 as far as the golf links, also serving a ferry across the river to the outer township of Rye Harbour. In 1908 this single-track 3 ft. gauge line, known as the Rye and Camber Tramway, was extended to Camber Sands, terminating among the sand dunes, close to the seashore. The rails were of light, flat-bottom type spiked to the sleepers; most of the way the track was unfenced. First, second and third class passengers were carried at one time, though latterly there was one class only. In recent years trains ran in summer only up to 1939.

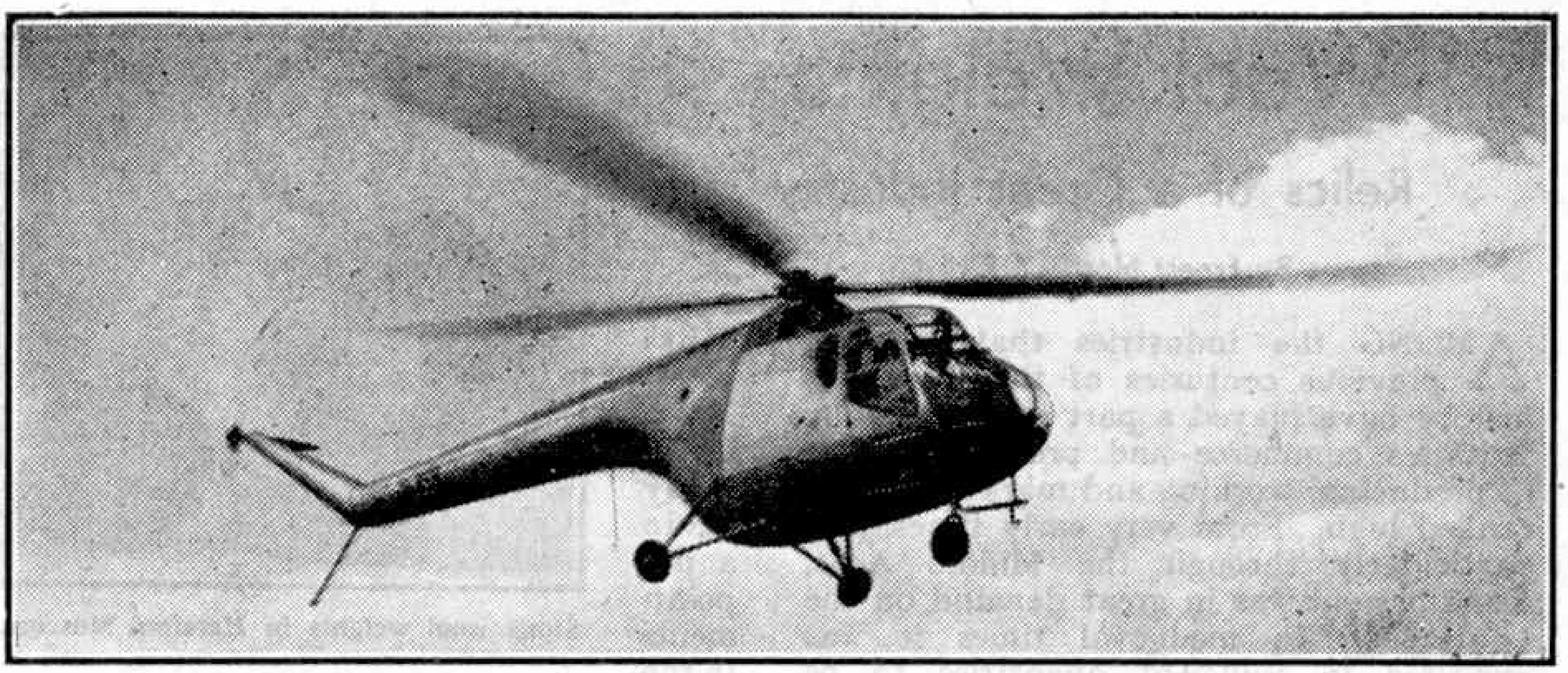
The rolling stock consisted of two bogie horse-tramcar type passenger vehicles. There were, to begin with, two diminutive 2–4–0 tank engines named *"Camber"* and *"Victoria."* The latter disappeared a good many years ago though the former was still visible, rather the worse for wear, in the little shed quite recently. Her appearance can be well judged from the photograph. *"Victoria"* was built by W. G. Bagnall Ltd., of Stafford, in 1897 with 2 ft. 0½ in. driving wheels, 6 in. by 10 in. cylinders and a total wheelbase of only 6 ft. 5½ in. She was suitable for light service on the level or moderate grades, but had not worked regularly for a long time. Motive power in the later 1930s had been provided by a green-painted tractor-type petrol engine with enclosed driving cab, built by the Kent Engineering Company, Ashford. It was driven by the smartly attired man-of-all-work who issued tickets and attended to all running operations. Road motor competition had seriously diminished passenger traffic by that time. Then came the second world war with military occupation of the coast, air attacks and consequent damage and deterioration; so it was not considered worth while to re-open the tramway and the remains of the rolling stock and track have been sold.



A steam locomotive and its train on the Rye and Camber Tramway. This photograph was taken in 1931 by Mr. H. C. Casserley.

"Camber" was a slightly smaller and older locomotive than *"Victoria,"* by the same builders, having been completed for the opening of the Tramway in 1895 at a time when road passenger transport was mostly horse-drawn.

Thus passes into history another of the interesting little light railways of England that rendered valuable local service in their heyday.



Bristol 171 helicopter in the air. Photograph by courtesy of The Bristol Aeroplane Co. Ltd.

Air News

By John W. R. Taylor

More Export Orders

Three very valuable export orders have recently been received by the British aircraft industry. The first, from Sweden, is for a large number of de Havilland "Vampire" jet fighters, and is one of the largest export orders in the history of the aircraft industry. Squadrons of these aircraft are already in service in Sweden; the repeat order is thus a tribute to the performance of the "Vampire" under both temperate and arctic conditions experienced in that country.

The Swiss Government also has chosen the "Vampire" as standard fighter equipment for its new Air Force. Its contract for 75 of these aircraft is worth £2,250,000. In this case the "Vampire" was chosen because its comparatively low wing-loading and fine handling characteristics enable it to operate satisfactorily from small aerodromes in mountainous country without sacrificing high performance or excellent warload.

The third order is for 12 Avro "Anson" XVIII aircraft for the Royal Afghan Air Force, and follows a visit to this country by Colonel Abdul Razak Khan, its Chief of Staff. This contract is worth £300,000. The "Anson" XVIII is similar to the well-known Mk XIX, with accommodation for eight passengers and powered by two 420 h.p. "Cheetah" engines. A special feature of the Afghan machines will be the installation of a Williamson "Eagle" Camera for aerial surveying work: the aircraft will also be used for communications and police duties.

The Bristol Helicopter

The Bristol 171 four-seat helicopter, illustrated on this page, is intended for use as an air taxi and feeder-line aircraft, for rescue work and artillery spotting. It was designed by Raoul Hafner, and has a 3-bladed, 47 ft. dia. main rotor and a small tail anti-torque rotor. The prototype is powered by an American Pratt and Whitney "Wasp Junior" engine, but future Mk II models will have a 550 h.p. Alvis "Leonides."

The 171 is of all-metal construction with the exception of its wooden rotor blades, which can be folded back along the top of the fuselage when the helicopter is parked. Its flying controls are orthodox and consist of a control column for lateral and fore-and-aft flying, a pitch lever for controlling vertical movement during landing and take-off, and pedals for directional control. As mentioned in my article on helicopters in last month's "*M.M.*", an outstanding feature of the Bristol 171 is its high kinetic energy rotor, designed to permit a safe landing in the event of engine failure at any altitude. The rotor blades have been extensively tested on the Company's special rotor spinning tower at Filton, and the results have proved highly satisfactory.

London-Cyprus Direct

The first direct air service between England and Cyprus is being operated jointly by British European Airways and Cyprus Airways Ltd. using "Dakota" aircraft. There is one service weekly in each direction, with a night stop at Rome and other stops at Marseilles and Athens. The London-Nicosia fare is £65 single and £117 return.

Cyprus Airways was formed last Autumn, shares being held by the Cyprus Government, B.E.A., and residents of the island. It is a progressive concern and plans are already in hand for services from Nicosia Airport to Alexandria and Cairo, Palestine and Syria, Smyrna and Istanbul.

D.N.L. Orders Another "Sandringham"

The three Short "Sandringham" flying boats used by Norwegian Airlines (D.N.L.) on their Northern Norway service proved so successful last summer that Shorts have been given a contract for another one. In four months more than 15,000 passengers were carried in the "Sandringhams" on the 8-hr. trip from Oslo to the land of the midnight sun.

High-Speed Freight Service to Australia

Now that Quantas Empire Airways are operating a Sydney-London air service with "Constellation" aircraft, the B.O.A.C. "Lancastrian" service, which has been operated jointly by Q.E.A. and B.O.A.C., has been switched to carry mail and freight only. Both services are operated three times a fortnight.

Though following slightly different routes, both the "Constellations" and "Lancastrians" complete the London-Sydney journey in just under 4½ days.

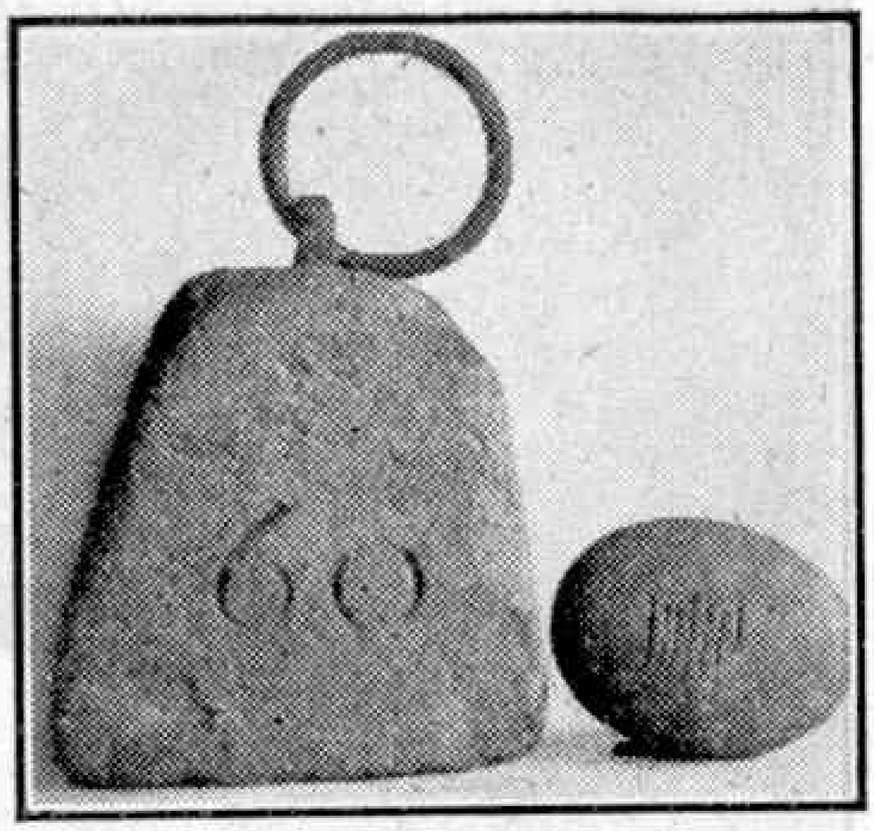
Light 'Planes Fly the Atlantic

Beechcraft "Bonanza" light 'planes have been flying the Atlantic regularly in recent months—in crates carried in the holds of "Skymaster" transports belonging to Transocean Airways of California. The "Skymasters" are those used to carry emigrants from Britain to Canada under the Ontario Immigration Scheme, the "Bonanzas" being brought over on the return journey. On arrival in this country the "Bonanzas" are assembled by Field Aircraft Services at Croydon, and flown on from there to buyers and Beechcraft agents on the Continent.

Wool Weights

Relics of a Great Industry

By Ernest Morris, F.R.Hist.S.



Stone wool weights in Hereford Museum.

AMONG the industries that through previous centuries of this country's history have played a part in establishing Britain's commerce and prosperity, that of producing, working and marketing wool ranked high. From very early times, and particularly through the Middle Ages, English wool was in great demand on the Continent. In mediæval times it was exported in sufficient quantities to be taxed to the extent of producing 74 per cent. of the revenue of the country. For this reason King Edward III presented a Woolsack to the Chancellor of the Exchequer as a perpetual reminder of the chief source of the country's power and supremacy.

Not only were there many Englishmen engaged in the wool trade, its flourishing conditions also encouraged merchants from abroad to establish themselves here, particularly in the Eastern Counties and in the Cotswolds. Many of these merchants became men of affluence, and were members of the "Staple of Calais," that town being one of our possessions from 1347 to 1558. The term "staple" denotes that here was one of the towns appointed by the reigning monarch to be a centre of the trade. This was to prevent wool from being smuggled out of the country, so avoiding taxation.

7-lb. wool weight of The City of Peterborough. Photograph by courtesy of the Victoria and Albert Museum.

Evidence of the wealth and generosity of the early wool-staplers is still to be seen in many beautiful churches and almshouses they built and endowed. Thus at Stamford, Lincs., one William Browne, who began his career as a draper but later "went into wool," became a member of the "Staple of Calais," restored the church of All Saints, and founded the fine almshouses known to this day as Browne's Hospital. He held many civic appointments in the middle of the 15th century, and is described as "a merchant of very wonderful richnesse." In the Cotswolds are many fine churches which, owing to their erection or restoration by woolstaplers of former days, are known as "wool churches." Thus we note that the Grevels rebuilt Chipping Camden, The Tames Fairford, and the Springs, the great church of Lavenham. At Bristol a "Staple of Wool" was settled in 1353 and became an important centre of the trade. Here the Canynge family settled and they possessed a fleet of 10 ships. Their benefactions became one of Bristol's traditions, especially in connection with the great church of St. Mary Redcliffe, described by Queen Elizabeth as "the fairest in all her realm."

Leicester was long connected with the wool trade, and even to-day native Leicestershire folk are nicknamed "woolleybacks" from the sheep raised on its broad meadows. The present writer is one of them! In the 12th century Lincoln had over 200 weavers, and who has not heard of the famous "Lincoln Green"? Lavenham produced an equally famous "blue cloth," while Worsted in Norfolk is the name-place of the world-wide known yarn of that name. The surnames Woolley, Woolman, Woolford and so on, derive their origin from this trade, while even

the country inns were associated with the staple, and the signs *"Golden Fleece," "Woolcombers Arms," "The Wool Pack"* and others of a similar kind are familiar enough in rural districts.

Special weights were formerly used exclusively in connection with the wool trade, and specimens of these may be seen in some museums, and in the hands of private collectors. These weights held superiority over all other weights in that they were the only ones to bear the Royal Arms.

Wool weights are usually of bronze and in two sizes, 7 lb. and 14 lb., but weights of 28 lb. are not unknown. A tod of wool was 28 lb. and the official appointed to weigh the wool and receive the custom, known as tronaire or tronage, was called a tronator. At stated times these tronators toured the particular district they had charge of, each provided with a pair of 7 lb. weights slung across the neck of his mount. The process of weighing the fleece against these weights upon the balance provided by the Act of Henry VI in every city, borough and town would be repeated, toll would be taken, and the official seal stamped upon the tod of wool. The 14 lb. weights were probably reserved for use in big wool centres, with the object of lightening the task of the tronator, for they would be cumbersome for daily use in country districts.

At the top of each weight is a hole, and through this a strap was inserted, thereby rendering it more easily carried slung across horseback. Wool weights are shield-shaped and bear the Royal arms of their time in the centre, while around the flat border are various identification marks. Among these there are the Avoirdupois A, the dagger of the city of London, and the Royal cypher, marks that were impressed by the Founders' Company, a Guild which had the right of stamping all weights made in London. Occasionally other marks appear, such as the flagon or ewer, which was a founders' mark from very early times. Sometimes the county identification mark is seen on them. For example, that of Rutland was an "R" and a horseshoe, Yorkshire was identified by the Rose of York and the initials YNR for Yorkshire, North Riding, and so on.

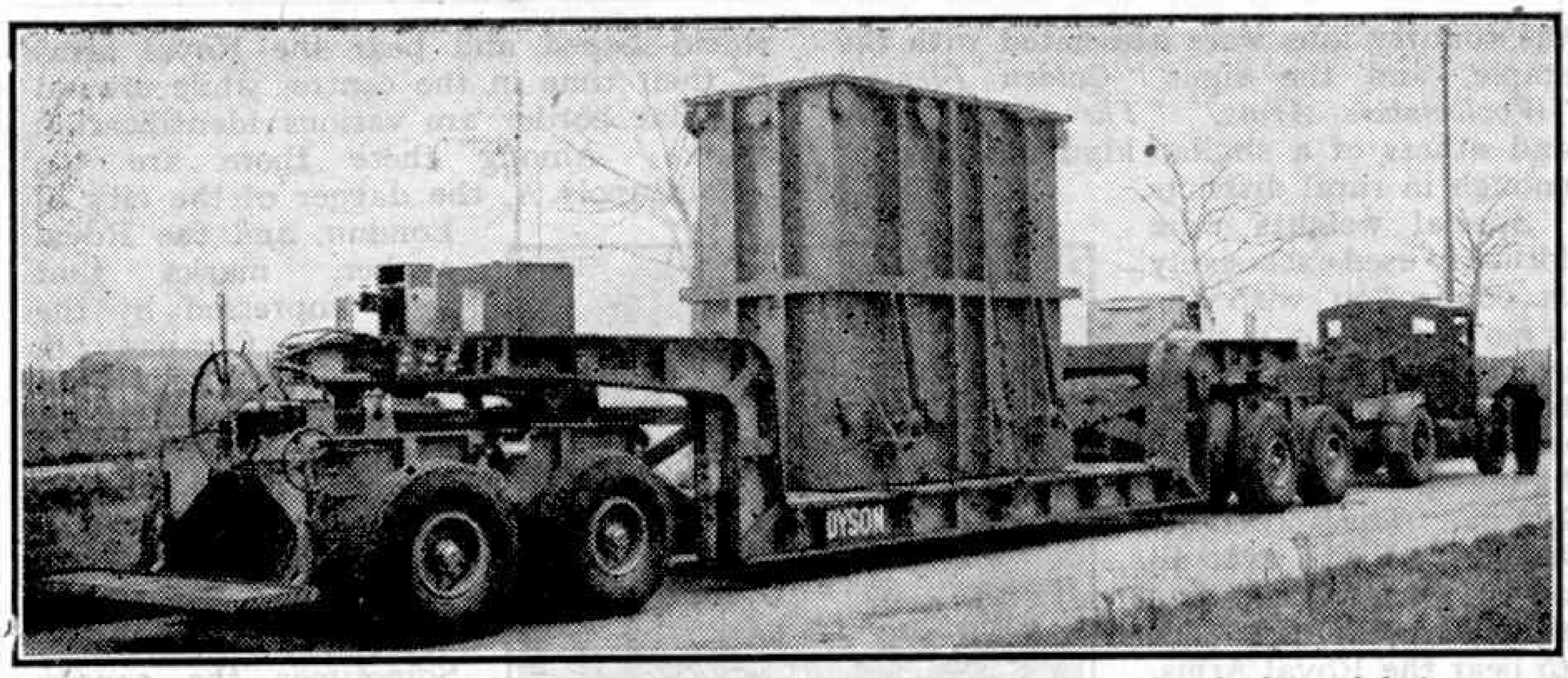
A George III wool weight.

In Leicester Museum there are several specimens, including a pair of 7 lb. weights still joined together by their original strap. One such weight was dredged up from the bed of the river Soar. A very fine specimen of the period 1457–1509 is in the possession of Dame Maud Bevan of Towney Priory, Herts., and is rather different in shape from the usual shield-like type.

In the British Museum are weights of Queen Anne's reign, while Lincoln possesses six weights, four of George I, and two of George III. Bristol Museum has a Queen Anne period weight, and also a fine example of the time of William and Mary. In the Victoria and Albert Museum, Kensington, there is a wool weight of the City of Peterborough, with the initials "I.R.," showing that it is of the time

A pair of George III wool weights in Leicester Museum, joined by their original leather strap.

(*Continued on page 140*)



An imposing view of the Dyson 75 ton Trailer, which embodies many novel and advanced features.

On Road and Track

A 75-Ton Trailer for New Zealand

R. A. Dyson and Co. Ltd., Liverpool, have recently constructed for the New Zealand Government the giant reversible trailer illustrated on this page. This has a total length of 49 ft. 3 in. and an overall width of 9 ft. It has two eight-wheeled bogies and is capable of carrying loads up to 50 tons, the trailer itself weighing 25 tons. Each wheel hub has tapered Timken roller bearings, and the eight special springs made by Jonas Woodhead and Sons Ltd. are fitted with oscillating ends which help to keep the chassis frame level when traversing uneven ground. The carriages articulate freely, and the vehicle can be raised 6 in. when a hump-backed bridge or some other obstruction makes extra road clearance necessary, or lowered to give greater security to the load on very rough ground on which there may be excessive bumping and jolting.

A great feature is that both ends of the trailer are of identical construction to allow towing from either end by simply transferring the drawbar, together with the steering platform, from one end to the other. Quite often it will be necessary to steer the trailer from the rear, and provision is made for this by the installation on each bogey of a helmsman's wheel, which is coupled to the centre of each turntable by means of a heavy roller chain, thus ensuring positive action. A further point of interest is that the trailer can be moved sideways. This is accomplished by pumping down the built-in hydraulic chassis jacks situated at each corner of the main frame and turning both bogey carriages through a right angle. After releasing the jacks the trailer can then be towed or pushed to either side.

Vintage Car Events

It is anticipated that the very generous offer of the Sports Car Club of America to organise a fund to provide petrol for the Vintage Sports Car Club will enable the British club to hold their usual events this year. This is assuming of course that the Americans will receive official permission from both Governments.

The Segrave Trophy

John Cobb has been awarded the Segrave Trophy in recognition of his outstanding achievement last year of creating a new Land Speed Record of 394.196 m.p.h.

Electron Microscope for Tyre Research

Rubber tyre treads and conveyor belts are known to wear better and last longer when carbon black is added to the rubber compound during manufacture. Exactly why this is so has remained a mystery for many years, as technicians have been handicapped during research work by the fact that small particles of carbon black remain invisible when inspected under an ordinary microscope. To overcome this difficulty the Fort Dunlop technical department have recently installed an electron microscope, so that the minute particles can be seen and measured.

Photography

Lamb Hunting

By E. E. Steele

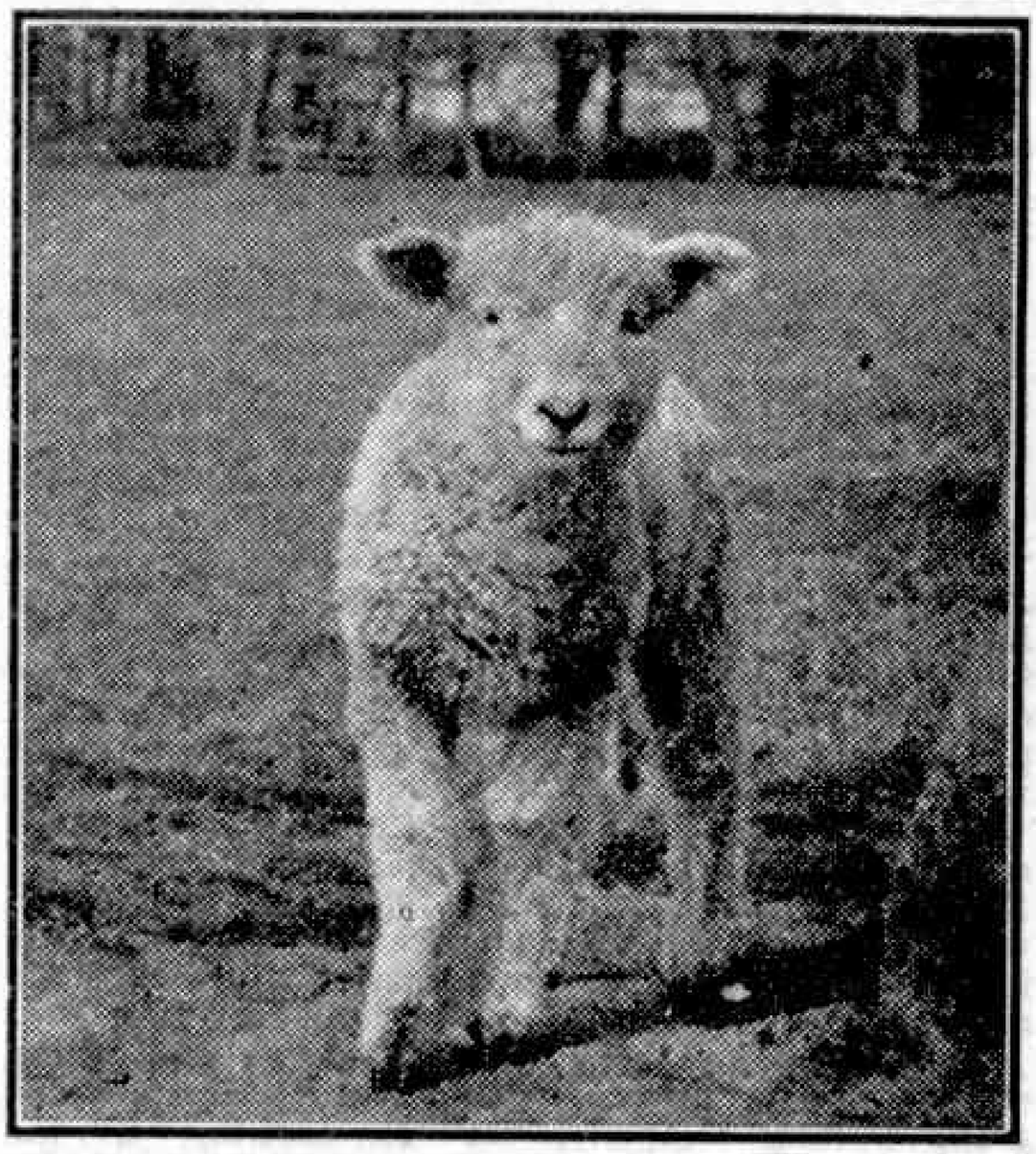
ONE of the most welcome signs of the return of Spring to the countryside is the appearance of frollicking lambs in the wayside meadows. Even the busiest of people stop for a few moments to lean over the gate and watch the joyful gambolling of these long-legged youngsters. They certainly provide a fascinating subject for the camera, and good pictures can be made without expensive apparatus.

There is one rule to be observed at the outset, and that is to get the permission of the farmer to go into his fields. Some farmers dislike having anyone disturbing their flock, but as a rule permission is readily given. The promise of a print or

Circle of Content.

two will be greatly appreciated, but remember to fulfil the promise. If by any chance the photographs are a failure, go and tell the farmer so; he will then remain your friend for a later occasion.

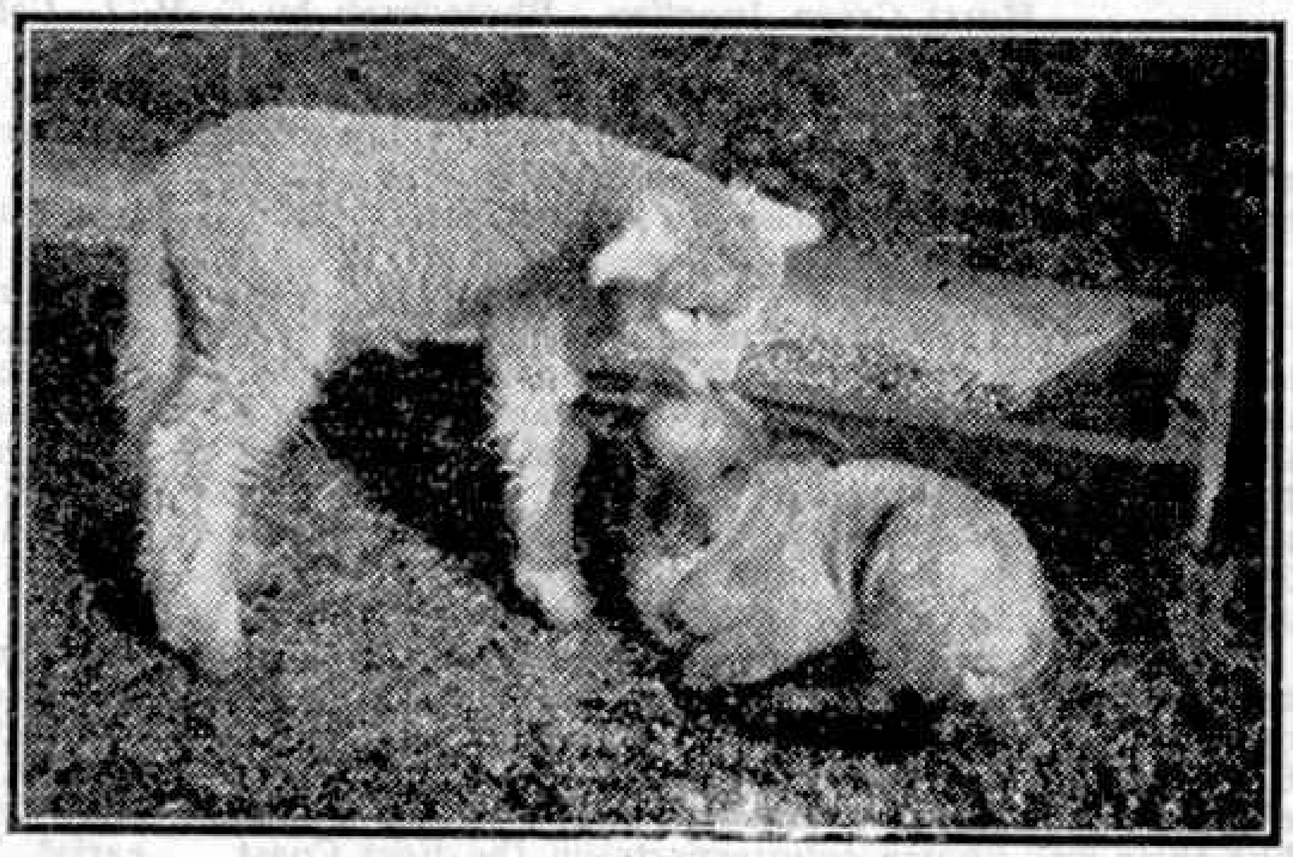
The essential thing about this work is to move slowly and quietly. I have found the best way is to move cautiously into shooting range and then sit down. Animals seem to lose much of their fear of humans when these are not in the erect position. Lambs are very inquisitive and will even come close up to a sitting figure, which is an ideal state of affairs for pictures such as the top one on this page.



Inquisitive Lamb.

When one has succeeded in getting close to the flock without raising a general alarm, many interesting pictures can be had by simply awaiting events. From time to time groups of lambs break away to form playful groups just as boys get together to start a game. I have enjoyed myself immensely by seeking pictures in this way.

There is plenty of light at this time of the year and nothing to worry about with regard to exposure. A "chrome" film will be helpful in giving a better rendering of the bright green of the grass, and a light yellow filter gives a pleasing effect when white clouds are included in the background. Do not over-develop, as soft, well-graded negatives are needed to show the texture of the white wool.



Pals!

Railway Notes

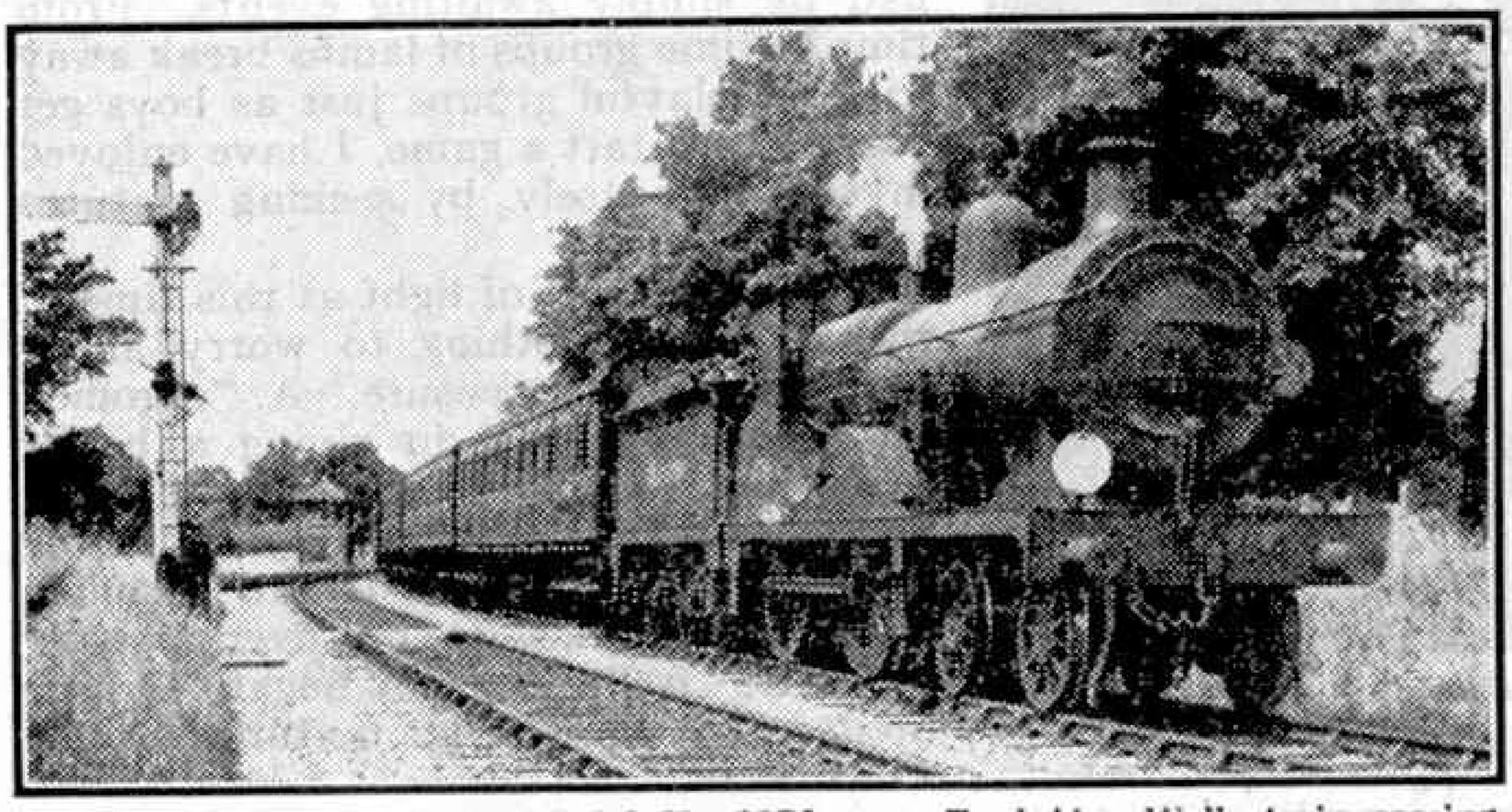
By R. A. H. Weight

National Developments

It is announced by the Railway Executive that all railway signs and station names will in time be of standard style in the plain, clear type now used by London Transport. Experiments are taking place with painting of locomotives and rolling stock in various colours in order to test durability of materials as well as public or official opinion. L.M.S. engines have been seen painted green of different shades; important express locomotives may be given a blue dress, other passenger engines green; goods types will pretty certainly be black, though at the time of writing there is no final decision.

Many locomotives are still under or awaiting repair. The number of passenger coaches available is about 6,000 short of the 1939 total, while the wagon position still remains serious. Nevertheless it is hoped to provide improved passenger services for next summer season from the beginning of June.

Prefixes are being painted on engines and rolling stock close to the numbers indicating the previous group owning company; "M" for L.M.S., "E" for L.N.E.R., "W" for Great Western; "S" for Southern. "*British Railways*" is being painted on tender or tank sides, though not necessarily in the style that will finally be adopted. A renumbering scheme may be introduced in time. Meanwhile locomotives and vehicles will run off one Region to another as required in the ordinary course of operating.



S.R. Wainwright "E" class 4-4-0 No. 1176 on a Tunbridge Wells train passing Hurst Green Junction. Photograph by C. R. L. Coles.

It has been decided that railway-owned steamships are all to have buff funnels with a black band at the top. Hulls will be black with white superstructure.

London Midland Region

New locomotives placed in service during January last were 2–6–0 class "4" freight engines of the rather unorthodox looking, though workmanlike design illustrated on page 104 of the March "*M.M.*" Nos. 3003/5 are allocated to "5B," Crewe South, and Nos. 3004/6 to "2B," Bletchley. Class "4" 2–6–4Ts built at Derby numbered 2190–5 are shedded at "30A," Corkerhill, Glasgow, Scottish Region.

During the week in the middle of February when there occurred the centenary of the commencement of through rail communication between London, Glasgow and Edinburgh, the famous 10.0 a.m. expresses from Euston and Glasgow, Central, which, like their well-known counterparts on the East Coast route known for so many years as "*The Flying Scotsman*," have been running at about the same time for some 80 years, began again to carry "*Royal Scot*" name boards on the coaches and will be so described in the time tables. The naming on the West Coast route had been in abeyance since 1939. On its southbound run, the "*Royal Scot*" makes the longest non-stop run in the world with steam traction at present, involving by far the longest continuous run in Britain for one driver and fireman, as no call is scheduled between Carlisle and London, 299 miles. The engines are "7P" 4–6–2s.

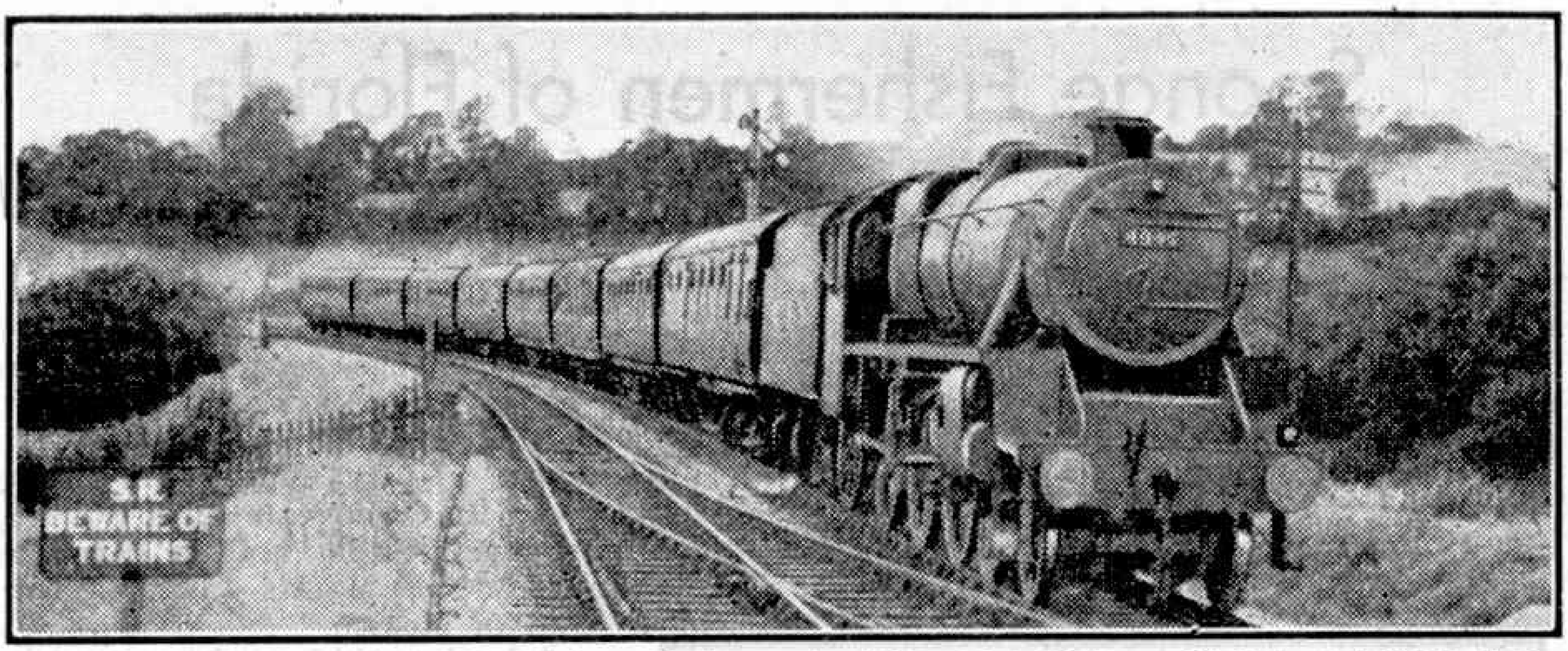
We have recently received interesting news of the heavy traffic passing the Thornhill Junctions in the West Riding of Yorkshire, where the Central Division (L. and Y.) main line joins the four-track trunk route of the Western Division "L.N.W." between Manchester and Leeds. Over 2,000 trains per week are signalled at Thornhill Junction, where there is an illuminated diagram, and also some colour light signals with many points and crossings. The Western through fast trains are often double-headed on account of steep gradients; some consist of L.N.E.R. stock through from York or Newcastle. Class "5XP" 4–6–0s of the "Jubilee" and "Patriot" classes are often seen, as well as the ubiquitous 2-cyl. class "5" 6 ft. 4–6–0s, which also work some through freight trains. Local passenger services are in the hands of the long-surviving L. and Y. 2–4–2Ts, L.M.S. 2–6–4Ts, and two old Midland class "3" 0–6–0s. Goods or mineral trains run almost continuously on which Stanier, Fowler or L. and Y. 8-coupled locomotives predominate, though there are many 2–6–0s and 0–6–0s seen as well.

The important coal marshalling sidings at Toton, near Trent, between Derby and Nottingham, are to be modernised and mechanised on the up side, providing for quick "hump shunting" and braking of the wagons as they run into the various roads on which trains are made up for forwarding to destinations. The down yard was equipped in 1939 with electric retarders, in conjunction with much improved methods of handling and advising wagons.

A Splendid Run

A grand run was logged from Grantham to York on one of the last days of the L.N.E.R. with "A4" No. 28 "*Sir Walter Whigham*," formerly No. 4487 "*Sea Eagle*," hauling well over 500 tons, as it was a crowded 15-coach King's Cross-Glasgow express. The engine worked through from London to York in charge of Grantham men. Driver W. Barnes took over at Grantham, which was left 5 min. late. Aided by largely favourable road, with good steaming and firing, Newark, 14¾ miles, was passed in 15½ min. after averaging 72.8 m.p.h. along the nine miles from Hougham. Even time was attained in 21 miles and then right on until well past Doncaster, a signal check and gradients included, this heavy train was running inside even time, that is in fewer minutes than the number of miles covered from Grantham start.

The severe speed restriction through Selby was carefully observed and the running average was slightly eased over the South Yorkshire levels, yet after passing Naburn, 78½ miles, in just over 80 min. a gentle run up to the north end of No. 9 platform at York brought the train to a stand in 86½ min. from Grantham, 82¾ miles, so that the 5 min. late start had been recovered and the arrival was 4½ min. early! This was one of the finest performances of its kind reported since 1939.



A Manchester-Bournemouth express at Cole, on the Somerset and Dorset Joint Railway. Photograph by W. S. Garth.

Eastern and Northern Regional News

We illustrate the "*Master Cutler*" express, which runs from Sheffield to London (Marylebone) and back each weekday, serving Nottingham, Leicester and Rugby. Interesting broadcasts describing the operation and running of this train were radiated by the B.B.C. Northern Service during March. Recordings were made on the footplate of "B1" 4–6–0 No. 1188 (Leicester shed) during the journey, and subsequently at Neasden shed and in the coaches, when passengers and members of the train staff were interviewed.

New "B1s" placed in service lately included Nos. 1037–9, built at Darlington and working in the Northern region, named respectively "*Jairou*," "*Blacktail*" and "*Steinbok.*" A departure has been made from the "Antelope" theme in order to name a number of these engines after Directors of the L.N.E.R. serving in 1947. These are Nos. 1036, "*Ralph Assheton*"; 1189, "*Sir William Gray*"; 1215, "*William Henton Carver*"; 1221, "*Sir Alexander Erskine-Hill*"; 1237, "*Geoffrey H. Kitson*"; 1238, "*Leslie Runciman*"; 1240, "*Harry Hinchliffe*"; 1241, "*Viscount Ridley*"; 1242, "*Alexander Reith Gray*"; 1243, "*Sir Harold Mitchell*"; 1244, "*Strang Steel*"; 1245, "*Murray of Elibank*"; 1246, "*Lord Balfour of Burleigh*"; 1247, "*Lord Burghley*"; 1248, "*Geoffrey Gibbs*"; 1249, "*Fitzherbert Wright*"; 1250, "*A. Harold Bibby*"; and 1251, "*Oliver Bury.*" All but the first two were constructed by the North British Locomotive Company, which is now in the course of completing the 12xx series, and they are working in nearly all parts of the system.

Construction is rapid at Doncaster. Of the "A2" 4–6–2s, Nos. 529–30 are well in hand at the time of writing, while "L1" 2–6–4Ts of the "9000" series, long on order, have begun to appear from Darlington. There has been some more green painting of representatives of various locomotive types, in some cases in conjunction with the new lettering.

It is hoped shortly to complete the widening of the main line between York and Northallerton, also to extend the colour light signalling. A huge new power-operated signal box is planned for the control of all the vast traffic at and within about five miles of the great station and traffic centre at York.

Western and Southern Tidings

We are pleased to announce that the honoured name "*Great Western*," familiar for over 100 years, is now carried by the last built "Castle" 4–6–0, No. 7007, which had been running as "*Ogmore Castle.*" Other nameplates affixed include: No. 1007, "*County of Brecknock*," No. 6921, "*Borwick Hall*" and No. 6948, "*Holbrooke Hall.*" No. 6982 "*Melmerby Hall*" is a new 1948 mixed traffic 4–6–0 of the modified "Hall" type; 0–6–0 Nos. 3218–9 have also been completed at Swindon.

The Somerset and Dorset Joint Line, which recently has been traffic-operated by the L.M.S. with Southern maintenance of track, structures and buildings, now goes into the Southern Region altogether, so there may be a departure from the present use of class "5" 4–6–0s on principal services, which convey through carriages to the Midlands.

The "E" class 4–4–0 shown in pretty surroundings in our illustration on the Oxted line is working to Tunbridge Wells and Tonbridge on a train from London Bridge. Such duties now are in the hands of larger "L" or rebuilt Wainwright 4–4–0s, as well as "U1" 2–6–0s and "Q" 0–6–0s, with the "I3" 4–4–2T more on Sussex country services.

The first withdrawals are announced of the sturdy "C" S.E.C.R. 0–6–0 locomotives, which have been so familiar in Kent and the London area for 40 years, doing much useful work of all kinds. The two so far scrapped are Nos. 1262 and 1499.

A new 122-lever electro-mechanical signal box has been brought into use at Wimbledon, London end.

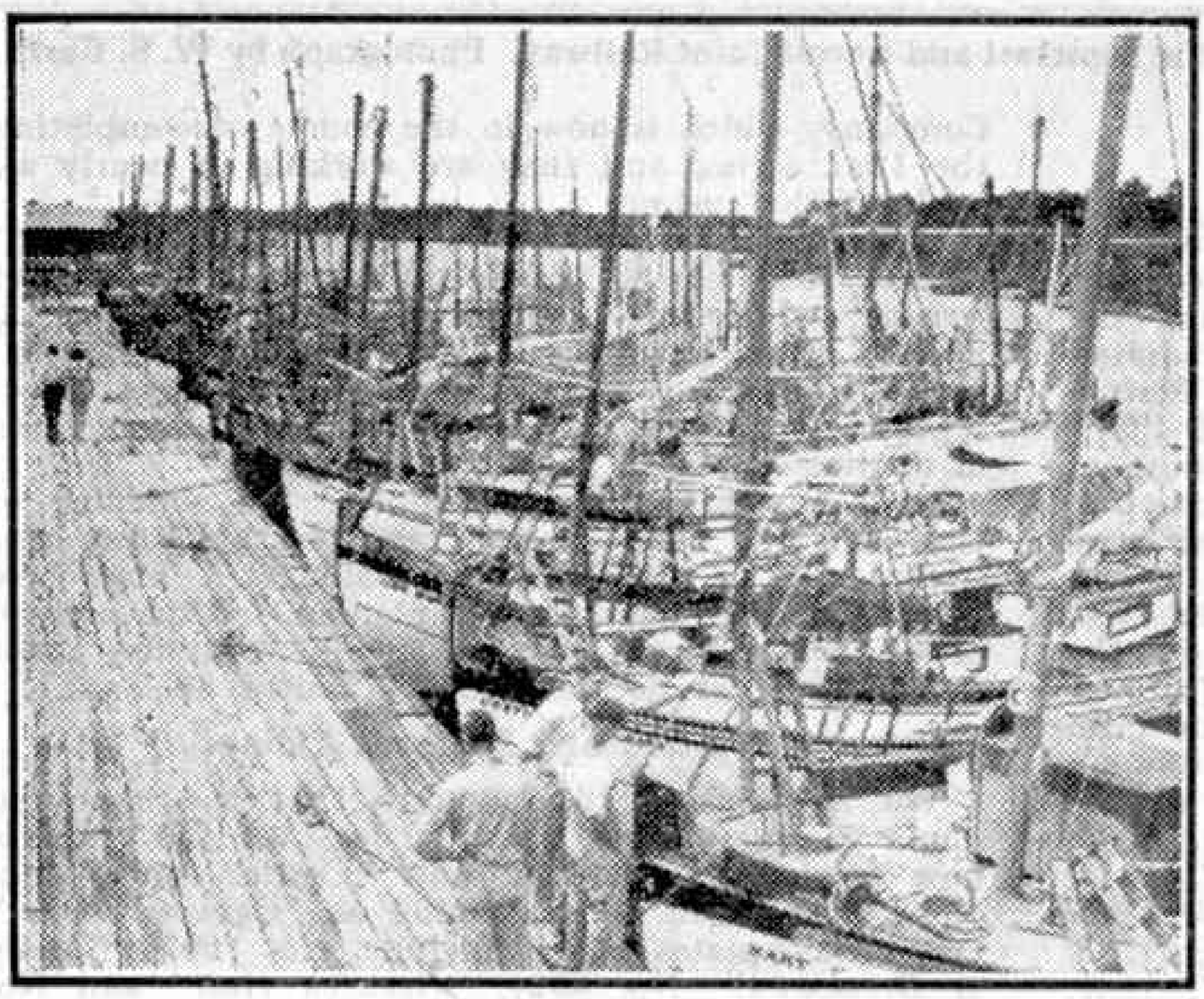
L.N.E.R. "B1" class 4-6-0 No. 1225 arriving at Leicester on the "Master Cutler" Sheffield-Marylebone train. Photograph by W. P. Conolly.

Sponge Fishermen of Florida

By Harold J. Shepstone, F.R.G.S.

THE largest sponge market in the world is to be found, not in the Mediterranean, or in the Bahamas, but in the beautiful little city of Tarpon Springs on the Mexican Gulf, in Florida. Tarpon Springs is often referred to as "The Venice of America" because of its numerous bayous and waterways.

Interest centres in the sponge fishermen of Tarpon Springs because they have, with hardly an exception, either hailed from Greece or the Greek Islands in the Aegean Seas, or are of Greek descent. Indeed, at Tarpon Springs you have what is virtually a slice of Old Greece. Not least, the Greek Orthodox Church plays an important part in the sponge industry. The "sponge year," as it is termed, begins at the time of Epiphany, when the Archbishop of the Church tosses a golden cross into the city's bayou and the Church's blessing, good luck and happiness go to the lucky diver who retrieves it.



The sponge fishing fleet of Tarpon Springs, Florida. The boats are of Greek design.

The sponge industry of Tarpon Springs had a very humble beginning. It was really started by one John K. Cheyney, who in 1890 sent out the first "hooker" boats to "pick" sponges. A few years later he induced a number of fishermen from Greece and the Greek islands of Aegina, Halki, Calymnos and Symi to join him. They brought with them their own equipment and diving suits, and plans of the boats used in the Mediterranean and other paraphernalia. From that time the sponge industry of Tarpon Springs gradually increased to the three million dollar industry of to-day.

The Florida sponge beds extend from Key West to St. Mark's Light near Apalachicola, in depth from 10 to 130 ft. and from one to fifty miles from shore. It is believed that there are 9,300 square miles of sponge-yielding bottom between St. John's and St. Mark's Light in the Gulf of Mexico.

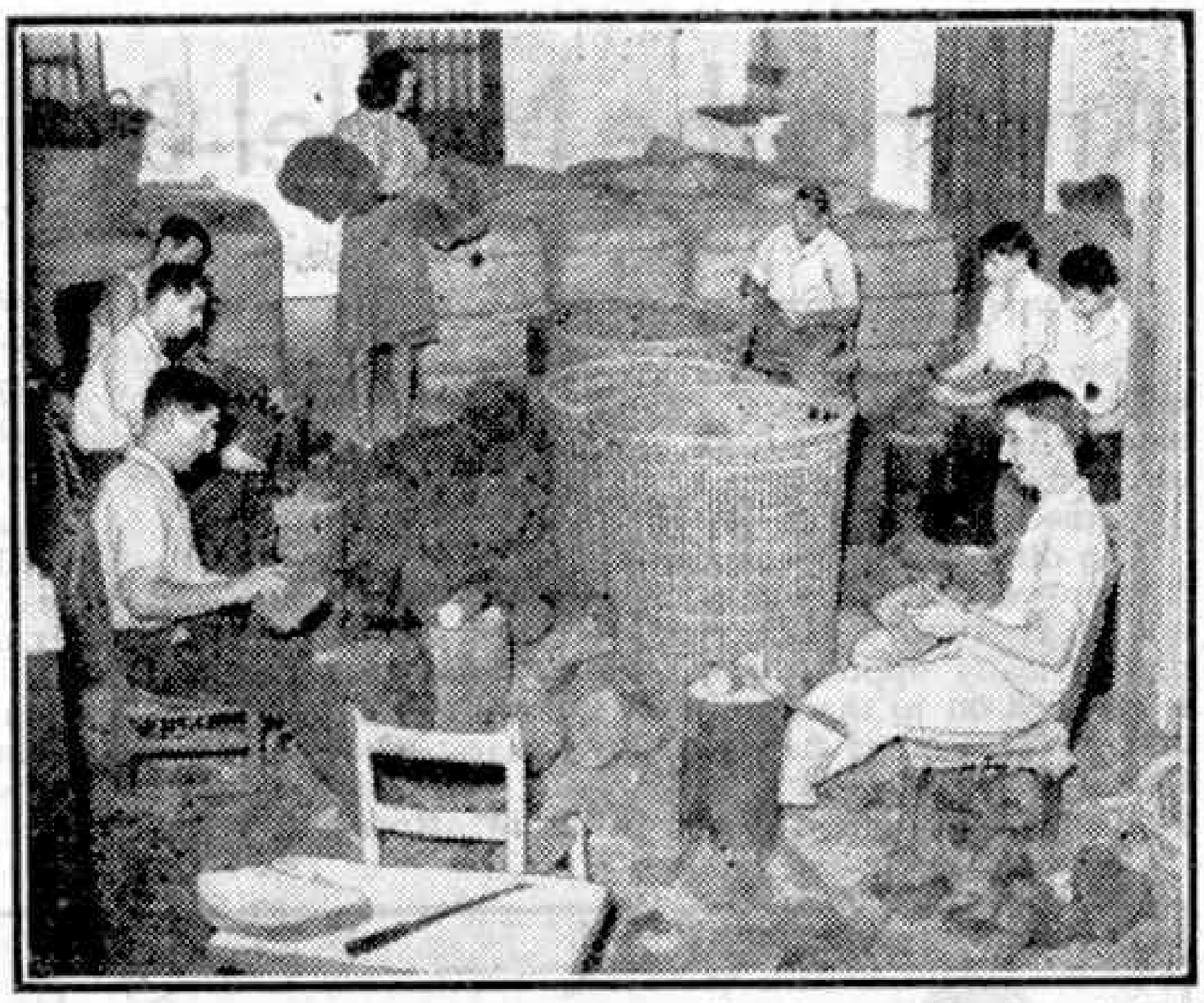
A book could be written regarding the several varieties and many qualities of sponges found in the Gulf waters, ranging in commercial value as follows: First the sheepwool, second the yellow, third the grass, and fourth the wire or velvet. The wool, or first quality, is compact and tough in texture, its strength and toughness depending upon the depth of water from which it is taken. The sponges taken in what is termed deep water, that is from 75 to 150 ft., are of extra fine quality and bring the highest price.

The sponge, an article of commerce since long before the Christian Era, is only the skeleton of an animal that has adhered to the bottom of the sea, on the surface or in a crevice of a rock, or sometimes attached to coral reefs. It was first found in the Mediterranean, and is mentioned several times in the Bible, and frequently referred to in the ancient writings of Greece. The ancient Greek name is "zo-ofiton," meaning half-plant and half-animal. It is one of the most ancient and lowest forms of marine animal life, and when found is covered with a tenacious black skin. The cells are filled with a gelatinous gray matter called "gurry," which is allowed to decay and is afterwards eliminated by pressure. The skeleton left is the sponge as we know it, but it is dark gray in colour. The commercial colour is obtained by bleaching in a solution of permanganate of potash, or a similar liquid. The age of a sponge is usually determined by its breadth, and the growth is said to average about one inch per year in diameter.

The Tarpon Springs fleet comprises about 175 boats, manned by 600 men.

Voyaging on the Gulf of Mexico 50 to 80 miles from land, up and down the coast, these boats are often out for a trip of several months duration. They are only 25 to 45 ft. in length.

Sponges are obtained in two ways. They are hooked from the bottom by men working on the surface, and picked by divers who descend to the bottom of the Gulf in diving suits. Hooking sponges is the simpler and more primitive method, the hooker boats being of all descriptions, from two-masted schooners sometimes 100 ft. overall, towing a string of dinghies, to small decked boats. In this method, if the water is smooth and clear, the hooker sees the sponge unaided. At other times, when the surface is disturbed by wave action, he peers through a bucket fitted with a glass bottom, or he smooths the surface with oil. His hook, a sharp pronged, three-tooth rake-like tool on the end of a long, light pole, seeks out the sponge as he peers down from the surface and tears it from its bed. Hookers work in water up to 30 ft. in depth.



Beating and shaping sponges in a packing house. Rock and shell fragments are knocked off with a mallet, and rough edges are chipped.

All diving is of the sóft suit variety. The diver is attired in a thick rubberized suit with bronze shoulder piece and helmet. Air is pumped into the helmet by an air pump in the diving boat, a completely equipped small cruiser stored with provisions for a stay of from a few weeks to several months at sea. It is manned by a crew of four to six men, the number of divers depending upon the depth of the diving. The right bottom for sponging is usually found by the use of the sounding lead.

Packing sponges ready for shipment.

The diver when working in comparatively shallow water remains on the bottom for several hours, but in deeper water for much shorter periods. In deep diving he goes down to around 125 ft. In naked diving, the shark is the diver's greatest peril, while in machine diving it is the fouling of the life-line or air hose. Modern divers take a bag with them, signalling on the life-line for another when it is filled with sponge, these bags being formed of rope. The percentage of casualties from diving in the sponge industry is not high, but the life of a sponge diver is shortened if he continues this work for more than 10 years, the water pressure often causing paralysis, or what is known as "bends."

Upon arrival at the docks the sponges are unloaded and placed in a co-operative warehouse maintained by the fishermen. Before being stored, the sponges are sorted for quality and size, threaded on a strong cord 58 in. in length, and then tied in a wreath. The number in a wreath varies from 10 to 20 depending on size.

On certain Tuesdays and Fridays the sponge auction is held. The buyers assemble and are advised as to the quality. The buyer writes his offer on a slip of paper and hands it (*Continued on page 140*)

Among the Model-Builders

By "Spanner"

FRONT-WHEEL DRIVE MECHANISM

This month I am describing a neat but strongly built front-wheel drive axle, and the slight extra trouble involved in fitting this to a vehicle will be repayed by the added interest it gives to a model. The mechanism is shown in Figs. 1 and 2.

The differential mechanism should be built up first. The crown wheel is represented by a 1½" Contrate 1, and it is fitted with two 1" Screwed Rods held in diametrically opposite holes by two nuts. A Collar is screwed on to the outer end of each of these Rods, and a 1½" Rod is fixed in the Collars. One of the Collars can be seen at 2. A Coupling 3 is held through its centre transverse hole on the 1½" Rod between the Collars 2. A ½" Pinion is free to turn on a Pivot Bolt screwed into each side of the Coupling 3. A ½" Contrate 4 is fixed on a 2½" Rod passed through the Contrate 1 and into the Coupling 3. A second ½" Contrate is fixed on a 2" Rod passed into the opposite end of the Coupling 3. The differential is housed in a casing consisting of two Boiler ends connected by 2" Strips. The drive from the engine is taken through a Universal Coupling to a ½" Pinion 5 meshing with the Contrate 1.

The outer ends of the 2" and 2½" Rods carrying the ½" Contrates are supported in Wheel Discs attached to the Boiler Ends by Double Brackets, and they are each fitted with a Universal Coupling 6. A Wheel Flange is attached by ½" Bolts to each Wheel Disc, and is fitted with two Angle Brackets 7. A second Wheel Flange 8 is also fitted with two Angle Brackets, and these are connected by lock-nutted Bolts to the Angle Brackets 7. A Bush Wheel 9 is attached by ½" Bolts to each of the Wheel Flanges 8, and a 1½" Rod is free to turn in the boss of each Bush Wheel. These Rods carry the road wheels, and they are fixed in the Universal Couplings 6.

It is important to make sure that the spiders of the Universal Couplings are exactly in line with the lock-nutted Bolts in the Angle Brackets 7.

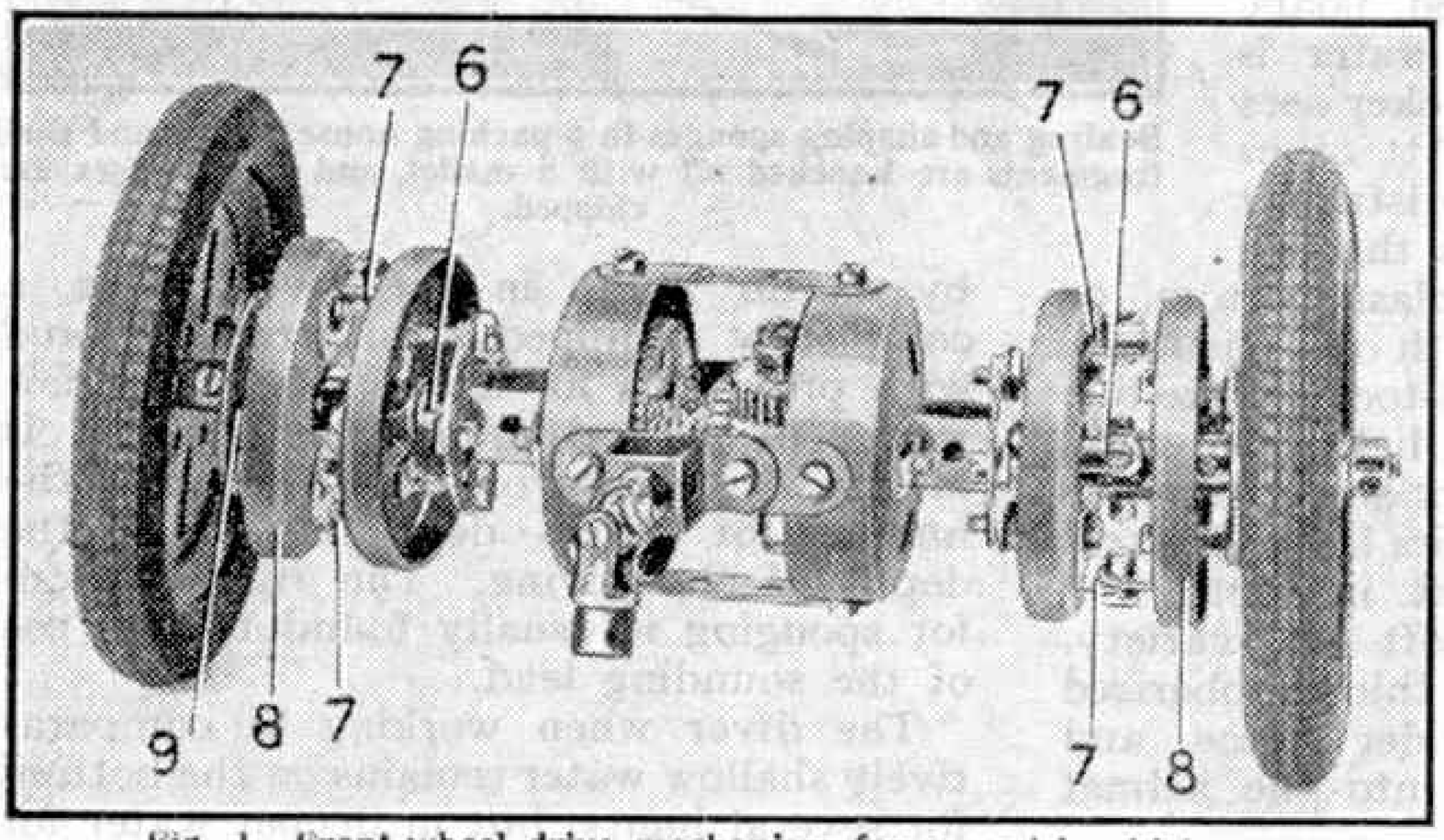


Fig. 1. Front-wheel drive mechanism for a model vehicle.

HOW TO USE MECCANO PARTS

STRIPS—
DOUBLE ANGLE STRIPS

This is the first of the special notes dealing with Meccano parts and their uses that, as mentioned in the March "*M.M.*," are to appear in these pages during the coming months. The series will form a useful guide for model-builders. As Strips form the basis of nearly all models I am dealing with them first, and succeeding notes will describe usual and unusual applications for many of the other parts in the Meccano system.

There are two main uses for Strips, for bracing and for filling in, although the latter function is sometimes better fulfilled by other parts such as Flexible Plates. When used for bracing purposes, a few Strips, provided they are arranged correctly, will convert a flimsy weak structure into a rigid and strong structure. This point is well illustrated in Fig. 3, where a vertical column formed from four Angle Girders and eight short Strips is made absolutely rigid by the use of twelve 5½" Strips arranged in the form of simple bracing. This bracing can be laid out in many different ways, and some kind of bracing is required in all such models as bridges, cranes, buildings, and any other

R. Reynolds, Birkenhead, who won Second prize in the recent No. 4 Outfit Model-Building Competition.

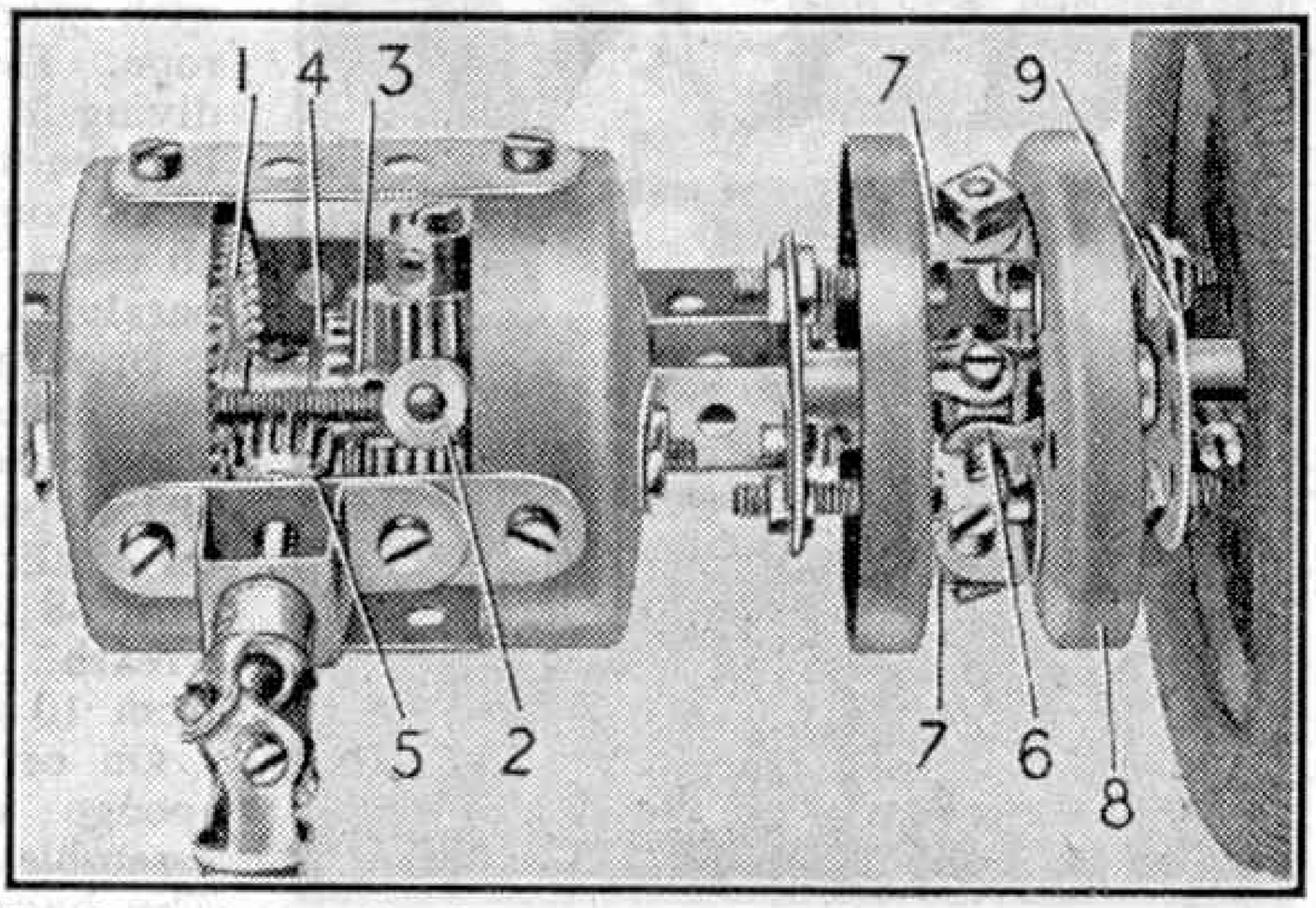
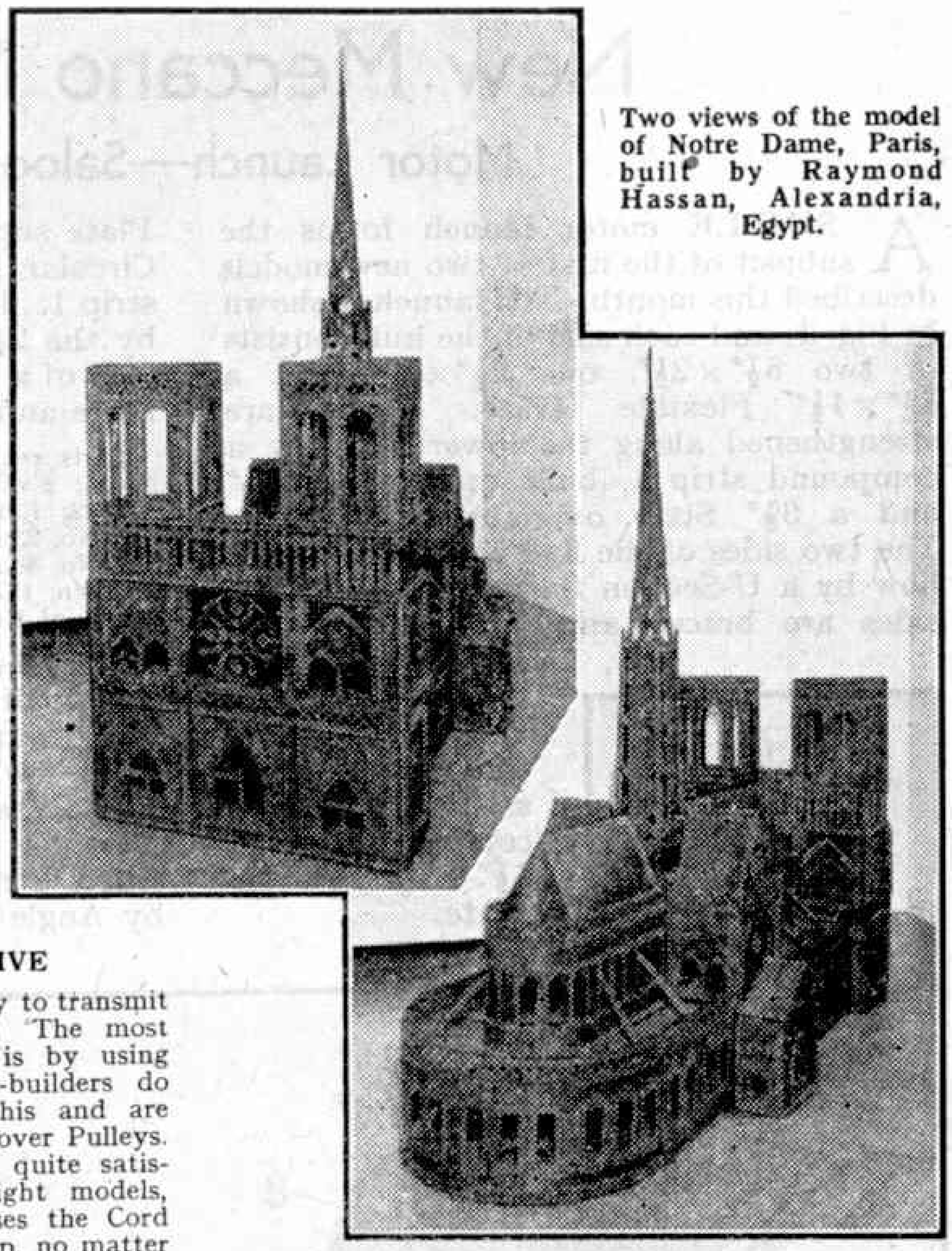


Fig. 2. A close-up showing one wheel arrangement of the front-wheel driving mechanism.

structure that has to carry heavy loads.

An excellent example of the use of Strips for filling-in purposes is shown in Fig. 4. In this illustration is seen the lower part of a Meccano model outboard engine for a boat, the portion shown being the steering fin fitted to actual engines of this kind. The outline of the fin is formed from Curved Strips, and the space so enclosed is filled in with Strips of various lengths. It will be seen that the result is extremely neat, and that by this method streamlined and other curved structures can be filled in without bending or distorting the parts used. The Double Angle Strips are similar to Strips except that their ends are bent at right angles. They are used for many constructional purposes but are particularly useful when it is necessary to join together the halves of a model, such as the side-members of a car chassis, or the sides of a bridge. They can also be used to form square boxes and columns, and in gear-boxes to provide bearings for Rods. New applications for the parts are constantly being found. When Double Angle Strips are not available they can be replaced in most cases by a Strip of suitable length having an Angle Bracket bolted to each of its ends.



Two views of the model of Notre Dame, Paris, built by Raymond Hassan, Alexandria, Egypt.

AN EFFECTIVE NON-SLIP DRIVE

In most working models it is necessary to transmit the drive from one shaft to another. The most efficient method of carrying this out is by using Gears or Sprockets, but many model-builders do not possess the necessary parts for this and are compelled to use a belt of Cord running over Pulleys. While this is quite satisfactory for light models, in certain cases the Cord is found to slip, no matter how tightly it is adjusted.

One method of overcoming the difficulty is to lap the Cord twice around the Pulleys. This gives a powerful drive, but it is not suitable for models working at a high speed. In such cases a great advantage can be obtained by rubbing the Cord with resin, and sprinkling a small amount of powdered resin in the grooves of the Pulleys.

Where the Cord is taken around Pulleys having a deep groove, such as a 3" Pulley, an efficient non-slip drive can be obtained by first placing a Driving Band of suitable size in the groove of the Pulley.

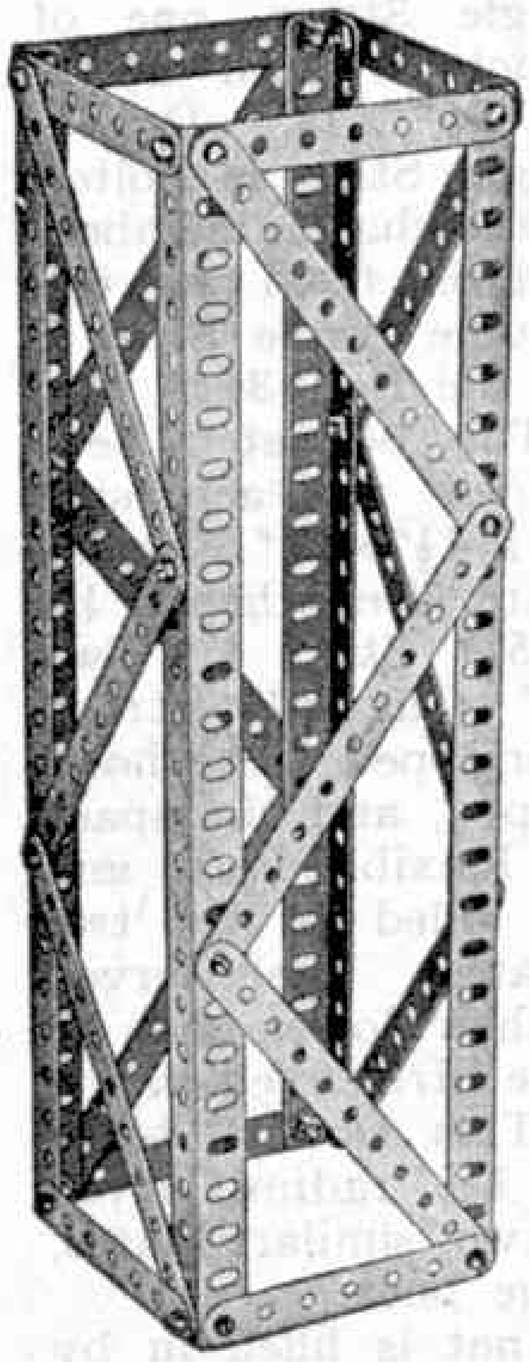


Fig. 3. A box column braced by Meccano Strips to form a rigid and strong structure.

MODEL BUILDING IN EGYPT

Most Meccano boys have a special liking for a particular subject. Some boys prefer to build cranes, while others concentrate on motor vehicles or locomotives. Now and then we come across "experts" in other subjects and among these is Raymond Hassan, Alexandria, Egypt, who is fond of constructing architectural models. He is the builder of the fine model of Notre Dame Cathedral that appears on this page. This is by no means the first time that this famous French Cathedral has formed the subject of a Meccano model, but anyone who has either seen the real building in Paris, or has seen a photograph of it, will not fail to recognise and appreciate the realism of Hassan's model. The towers of this large model are 40 in. in height and the steeple is nearly twice as high. From end to end the model measures about 72 in. The main features of the actual building are very skilfully reproduced and great care has been taken to maintain correct proportions between one part of the structure and another. Altogether the model is a very interesting piece of work and I congratulate its builder on his enterprise and originality in his constructional methods.

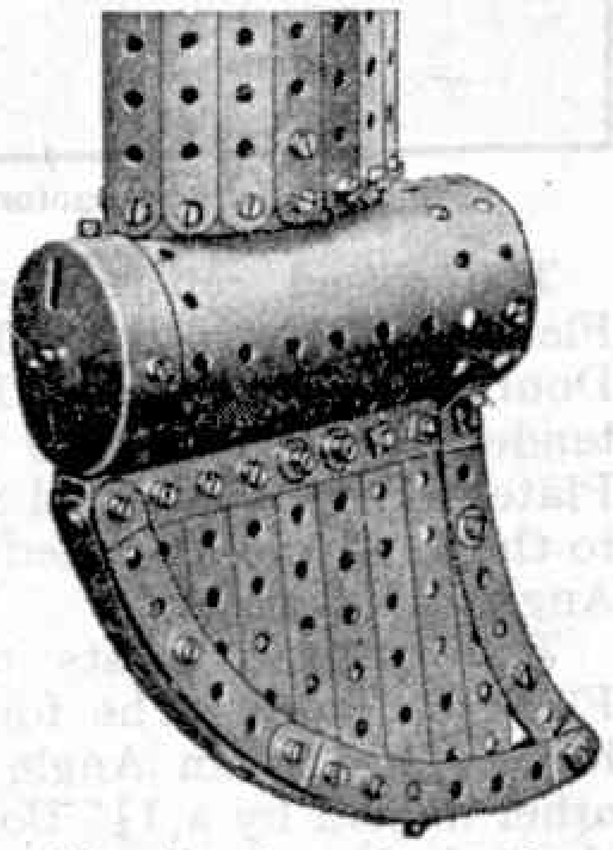


Fig. 4. A portion of an outboard motor-boat engine showing the use of Strips for filling-in purposes.

New Meccano Models

Motor Launch—Saloon Car

A SIMPLE motor launch forms the subject of the first of two new models described this month. The launch is shown in Fig. 1, and each side of the hull consists of two $5\frac{1}{2}'' \times 2\frac{1}{2}''$, one $2\frac{1}{2}'' \times 1\frac{1}{2}''$ and a $5\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plate. These are strengthened along the lower edge by a compound strip 1, built up from a $12\frac{1}{2}''$ and a $3\frac{1}{2}''$ Strip overlapped one hole. The two sides of the hull are joined at the bow by a U-Section Curved Plate 2. The sides are braced amidships and at the stern by $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strips held by the Bolts 3 on each side. The stern is completed by a $5\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plate.

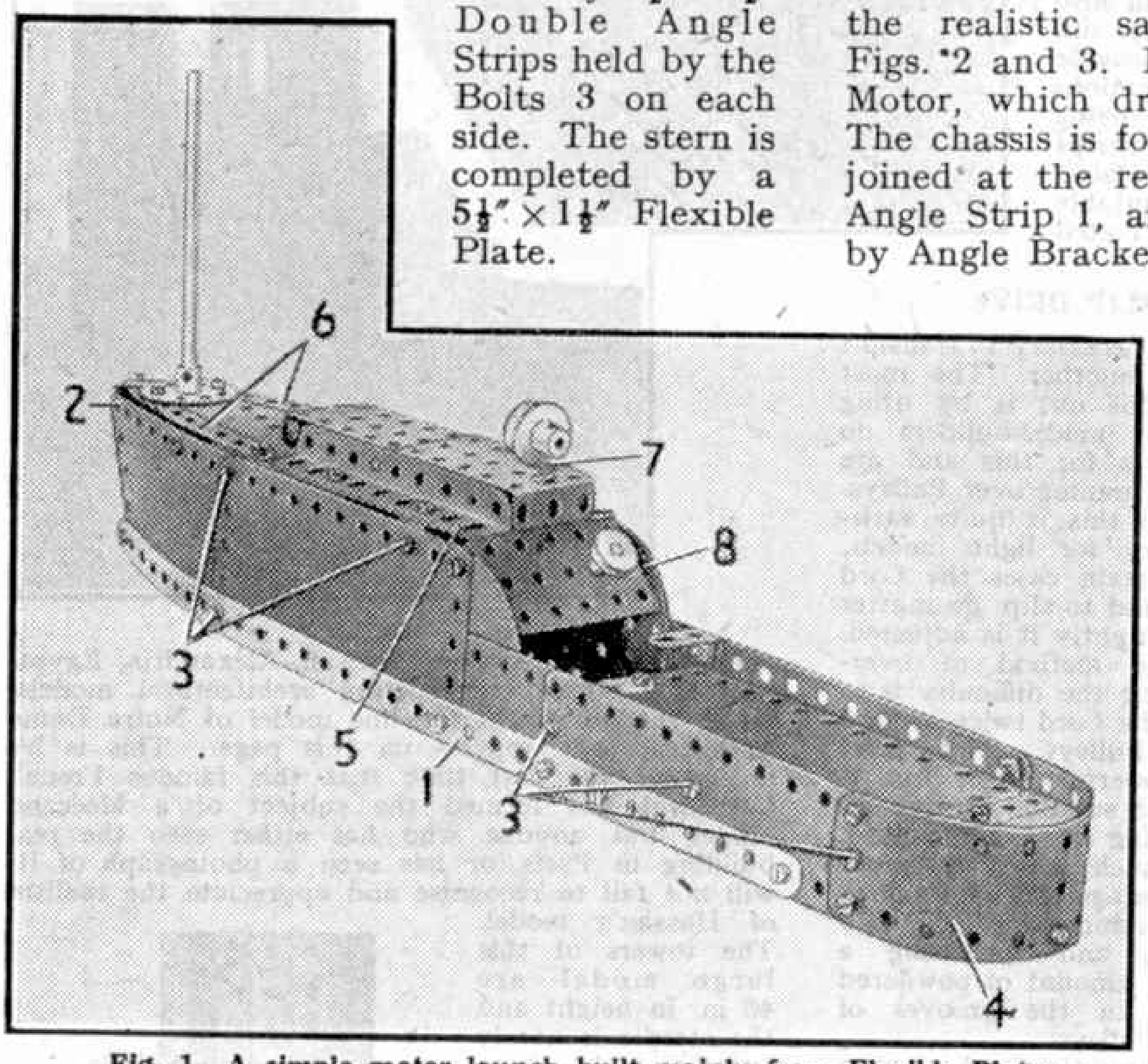


Fig. 1. A simple motor launch built mainly from Flexible Plates.

The raised centre deck is a $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plate 5 bolted to the $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strips. This Plate is extended forward by two $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plates. Two $5\frac{1}{2}''$ Curved Strips 6 are bolted to the deck and attached to the bow by an Angle Bracket.

The cabin consists of two $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flanged Plates. The forward one is held in position by an Angle Bracket and the other is held by a $1\frac{1}{8}''$ Bolt 7, which passes through the deck and carries also a $\frac{3}{4}''$ Flanged Wheel.

The dashboard is a $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flanged Plate supported at each side by a Semi-Circular Plate 8 bolted to the compound strip 1. The after deck, which is supported by the $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strips, consists of a $5\frac{1}{2}'' \times 2\frac{1}{2}''$ and a $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plate and a Semi-Circular Plate.

Parts required to build the Motor Launch: 2 of No. 1; 2 of No. 3; 2 of No. 9a; 2 of No. 9f; 3 of No. 12; 1 of No. 12b; 1 of No. 15a; 1 of No. 20b; 1 of No. 23a; 1 of No. 24; 43 of No. 37; 1 of No. 37a; 7 of No. 48a; 3 of No. 51; 2 of No. 89; 1 of No. 111a; 1 of No. 111d; 5 of No. 188; 3 of No. 189; 6 of No. 192; 1 of No. 199; 3 of No. 214; 1 of No. 215.

Our second new model this month is the realistic saloon car illustrated in Figs. 2 and 3. It is fitted with a *Magic* Motor, which drives it at a good speed. The chassis is formed by two $12\frac{1}{2}''$ Strips joined at the rear by a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip 1, and attached at the front by Angle Brackets to a $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flanged Plate. The sides of the bonnet consist of $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates attached to the radiator and connected at their rear ends by two $3\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strips, one of which is seen at 2. A $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip is bolted to the chassis members and is fixed to the Double Angle Strip 2 by the Bolt 3.

The bonnet is extended at each side by a $4\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plate strengthened by a $5\frac{1}{2}''$ Strip 4. Two $2\frac{1}{2}''$ Curved Strips overlapped three holes are bolted to the Strip 4, and the space between the $4\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plate and the Curved Strips is filled in by two $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plates. The Curved Strips are bolted at their lower ends to a $3\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip fixed to the rear of the chassis. This Double Angle Strip also supports two $1\frac{11}{16}''$ radius Curved Plates, extended by two similar Plates, which form the luggage boot.

The top of the bonnet is filled in by two $5\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plates. These are overlapped three holes at the front and attached to the top of the radiator. They

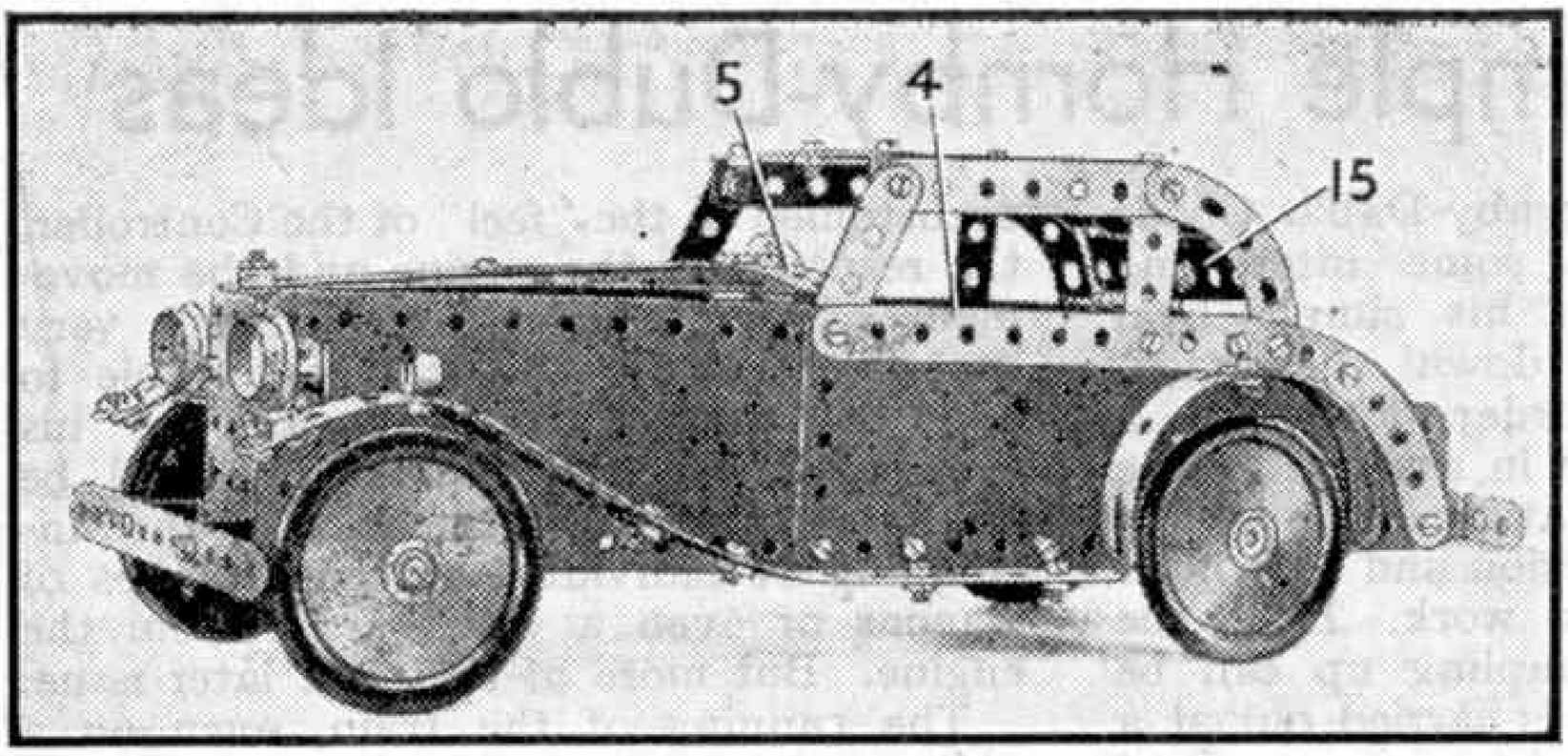


Fig. 2. This saloon car is fitted with a Magic Motor, which drives the rear wheels.

are bolted at the rear to a $3\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip, and fitted with a $5\frac{1}{2}''$ Strip and a $3\frac{1}{2}''$ Strip 5.

The front axle is formed by a $3\frac{1}{2}''$ Strip 6. This is attached to Fishplates bolted to the radiator. A $\frac{3}{8}''$ Bolt is passed through a $1\frac{1}{2}''$ Strip 7, and an Angle Bracket 8 is held tightly in place by a nut. The shank of the Bolt is then passed through the end hole of the Strip 6 and fitted with lock-nuts. The Strips 7 are connected by a further $3\frac{1}{2}''$ Strip 9 held by lock-nutted bolts. The Road Wheels are free to turn on $\frac{3}{4}''$ Bolts fixed by two nuts to the Angle Brackets 8.

The steering column is a $3\frac{1}{2}''$ Rod mounted in an Angle Bracket 10 and in a $1\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip 11, and it carries a Rod and Strip Connector 12. A $1\frac{1}{2}''$ Strip bolted to the Rod and Strip Connector engages between two $\frac{3}{8}''$ Bolts fixed to the Strip 9.

The rear wheels are fixed on a $4\frac{1}{2}''$ Rod mounted in the chassis side members. A $1''$ Pulley on this Rod is connected by a Driving Band to the pulley of a *Magic* Motor bolted to one of the chassis members.

The windscreen side-pillars consist of $2\frac{1}{2}''$ Strips, and these are connected at their upper ends by a $3\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip 13. The top of the roof is formed by two $4\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates overlapped three holes and bolted to the Double Angle Strip 13 and to an Angle Bracket 14 at each side. These Flexible Plates are extended at the rear by two $1\frac{11}{16}''$ radius Curved Plates 15.

The front mud-guards and running boards consist of two $5\frac{1}{2}''$ Strips overlapped three holes.

Parts required to build the motor car: 2 of No. 1; 9 of No. 2; 2 of No. 2a; 5 of No. 3; 4 of No. 5; 3 of No. 6a; 6 of No. 10; 2 of No. 11; 11 of No. 12; 2 of No. 12b; 1 of No. 15a; 1 of No. 15b; 2 of No. 20b; 1 of No. 22; 1 of No. 24; 90 of No. 37; 18 of No. 37a; 11 of No. 38; 1 of No. 48; 2 of No. 48a; 4 of No. 48b; 1 of No. 51; 4 of No. 59; 4 of No. 90; 2 of No. 90a; 2 of No. 111; 4 of No. 111a; 6 of No. 111c; 4 of No. 125; 1 of No. 186a; 4 of No. 187; 4 of No. 188; 2 of No. 189; 4 of No. 191; 2 of No. 192; 6 of No. 200; 1 of No. 212; 4 of No. 215; 1 *Magic* Motor.

April "General" Model-Building Competition

In this competition prizes are offered for models of any kind built entirely from Meccano parts. All a competitor has to do is to think of a suitable subject, choosing one that is as new and original as possible, and then set to work to build it in Meccano. Any number of parts may be used, but all models submitted must be the competitor's own handiwork.

The competition will be divided into two Sections: (A) for readers of all ages living in the British Isles; (B) for readers of all ages living Overseas.

When the model is completed a photograph or a good sketch of it must be sent to "April General Model-Building Contest, Meccano Ltd., Binns Road, Liverpool 13." The competitor's age, name and address must be written on the back of each photograph or drawing submitted, together with the name of the competition and letter A or B indicating the Section for which the entry is eligible. Actual models must not be sent.

Prizes will be awarded in each Section of the competition as follows: First, Cheque for £2/2/–; Second, Cheque for £1/1/–; Third, Postal Order for 10/6. There will also be a number of consolation awards and Certificates of Merit.

Readers living in the British Isles must forward their entries before 31st May. The closing date for Section B is 31st July next.

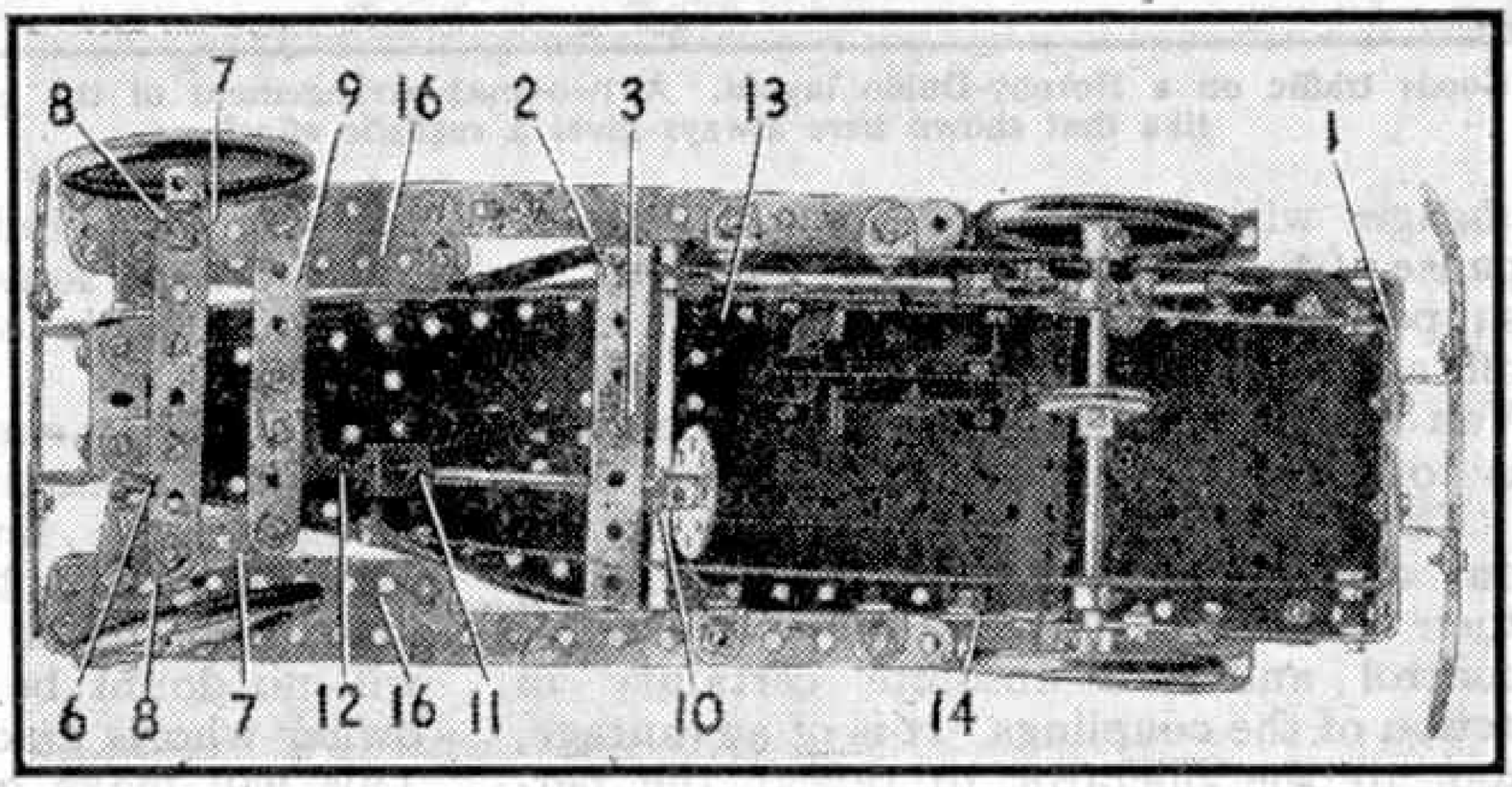


Fig. 3. An underneath view of the saloon car.

Some Simple Hornby-Dublo Ideas

THE owner of a Hornby-Dublo Goods Train can enjoy some interesting running operations on his simple oval layout. Having laid down the track, with everything in order, there is a considerable fascination in assembling the train. The new automatic couplings now fitted are positive in action and it is most interesting to see them work. Even the simple operation of coupling up can be quite entertaining if it is carried out at a slow speed in the correct manner. Real engines do not dash to and fro when making up their trains, they are quite deliberate in their movements. The Dublo operator therefore should aim at the same effect, and the degree of control afforded by the Dublo Controller makes it quite possible. Try it!

All the vehicles contained in the Train Set are placed on the track, not together, but fairly well separated. Next we bring the engine along so that its coupling engages with that of the open wagon. A pause (while the imaginary shunter is supposed to be coupling up), and then off again to pick up in turn the Goods Van and the Brake Van. Now the train is complete and ready for a run.

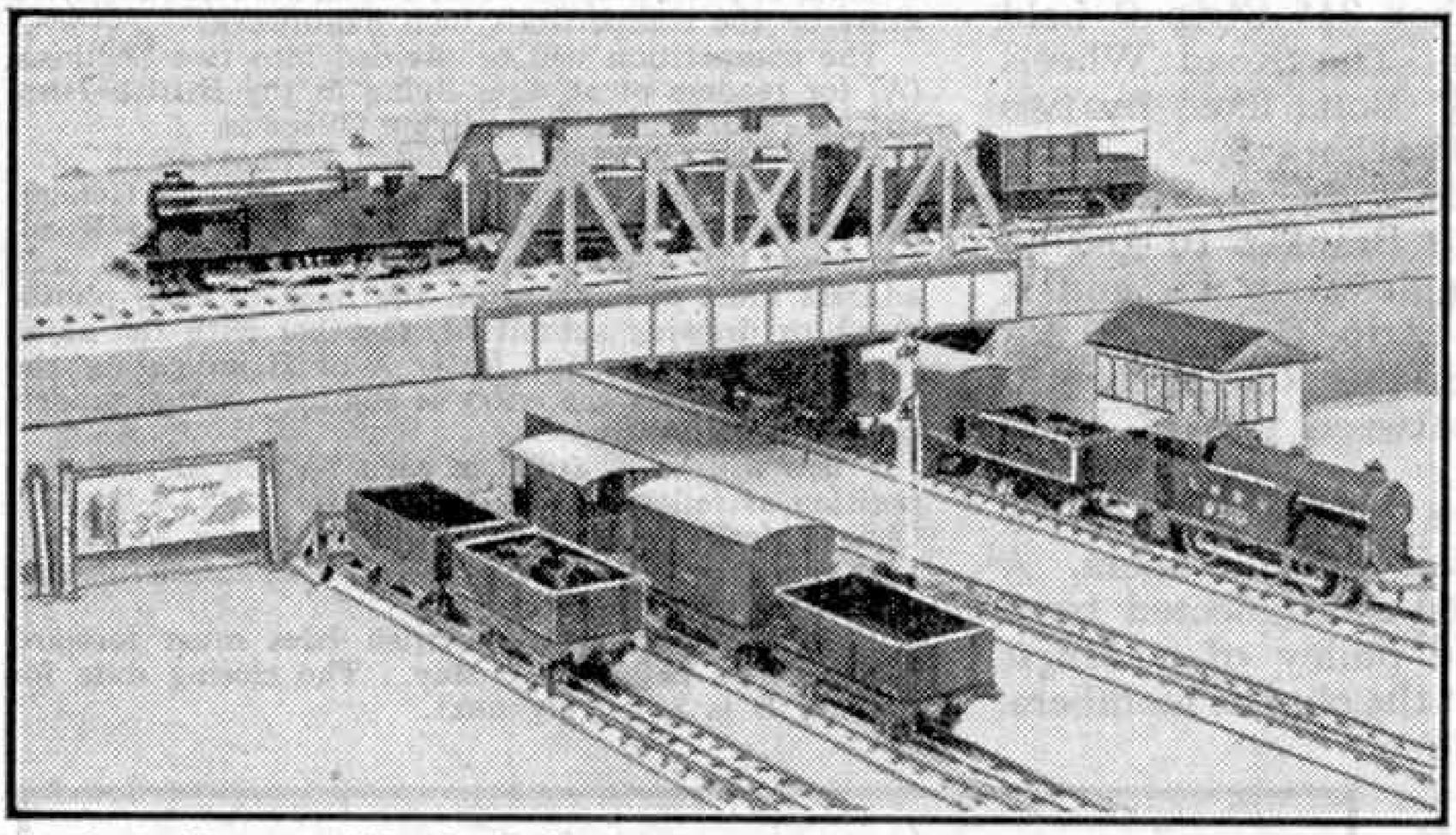
These coupling operations can be carried out over and over again without losing their attraction, because of the ease of control and the absolute certainty in action of the couplings. It is of advantage, too, to the operator to repeat the performance frequently, for then he becomes accustomed to the "feel" of the Controller, the response of the engine and the movement of the vehicles. This will be very useful later when it becomes possible to add the new Uncoupling Rail to his system. When this happens he will be able to carry out automatically the uncoupling of individual wagons, groups of wagons or even a whole train from the engine. But more of this in a later issue.

The running of the train, even on a plain oval track, can afford plenty of fun. The gentle amble of the "local goods," or the impatient hustling of the "fast freight" can be reproduced perfectly according to requirements, and in addition, as every Dublo owner knows, starting, stopping and reversing are all carried out under perfect control.

To take the fullest advantage of this, we should have a running scheme. From the usual starting point of the train, after the assembly of the vehicles as described before, we can arrange a journey to consist of a certain total number of circuits. Different stages of the run between stops can be made at different speeds. The first stage, for instance, can be taken at moderate speed. Then a fast stage can follow and, finally, further gentle running can bring the train to the end of the journey.

All sorts of variations of this kind will occur to the keen operator, and some runs can be made in one direction while others can be made the opposite way.

Probably an early step will be to provide a suitable starting and stopping place alongside the line. In other words, a platform of simple materials, either wood or cardboard, or a combination of both, will no doubt be provided by the Dublo owner who is anxious to improve his line. This will make quite a difference to the general appearance of the layout.



Goods traffic on a Hornby-Dublo layout. A two-level arrangement of the tracks like that shown here always gives a realistic effect.

Some Notes on Hornby Rolling Stock

THE rolling stock of a Hornby railway forms an important part of the equipment and it does not always get the attention it deserves. If the stock is not looked after to a certain extent then the running will become unsatisfactory sooner or later.

Rolling stock does not "work" in the same way as engines do, but it has to run; if it does not run well it has a definite effect on the engine's performance. A well maintained and lubricated piece of rolling stock that has been in use some time will spin along the rails very easily, and bigger trains of such vehicles can be taken or longer runs can be made.

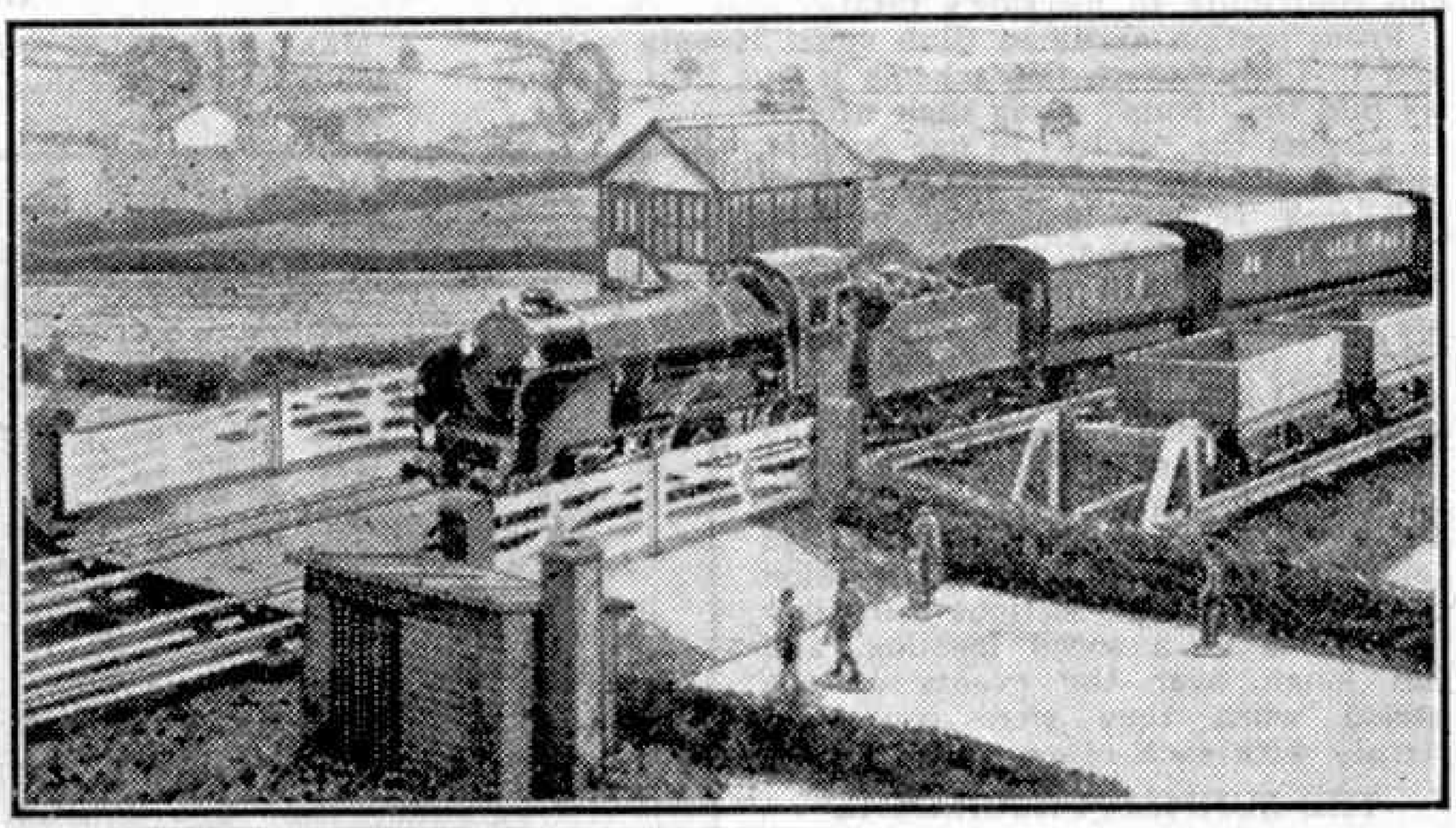
A tiny drop of oil should be applied to the axles of rolling stock, first outside the wheels but inside the frames. This will look after the axle bearings. Great care should be taken not to use too thick an oil and not too much. Light oil such as is used for sewing machines will be just right. We apply it by means of a wire dipper or sharpened matchstick. Next a small drop inside the wheels is required; this should be placed between the small washers on the axles and the backs of the wheels. The wheels should be slid slightly along the axles to allow of this being done.

From time to time it may be necessary to wipe the wheel treads, as some oil is almost sure to find its way on to them after a prolonged spell of running. A clean dry rag is best and this job can be done with advantage when the rails are having one of their periodical clean-ups.

It is a good plan to examine the couplings of coaches or wagons from time to time. Sometimes they get distorted owing to collisions or other mishaps, and it is a good idea to correct them right away with a small pair of pliers.

The hook portion of couplings should pivot freely. A drop of oil about the pivot that secures the hook to the base of the vehicle will help. The coupling links must be quite free to move.

The general appearance of a train will be improved if the stock is kept clean and any slight damage or bending of various parts is corrected. Buffers sometimes "droop" as a result of rough shunting and so on, and the keen Hornby Railway owner should keep an eye on these things. Periodical cleaning of the bodywork of the vehicles is a good idea, for it removes the finger marks that tend to accumulate from over-enthusiastic handling! A dry wipe to remove any dust can be followed up by a very light application of a good quality wax polish. The roofs of vehicles tend to become grubby in time; as these are frequently finished in a light enamel, careful wiping with a damp cloth is advisable before any polishing is done.



A Southern express on a Hornby layout hauled by the 4-4-0 locomotive "Eton." Various examples of rolling stock are shown in the picture.

Some goods vehicles and certain Hornby coaches have sliding or opening doors. The doors should be kept in good order or they will be liable to give trouble, such as coming open when the train is running. Door handles, where these are fitted, should be kept correctly adjusted. The hinges or sliding arrangements of the doors can have just the slightest trace of oil now and again to ensure easy working.

In making up a train the operator should be careful not to mix unlikely vehicles together. Some goods vehicles, such as vans, can be run in passenger trains, but open wagons and such vehicles as tank wagons are best kept for freight operations only. There are exceptions in special cases, naturally, which we hope to deal with in greater detail at a later date.

Club and Branch News

WITH THE SECRETARY

RIVALRY IN CLUB LIFE

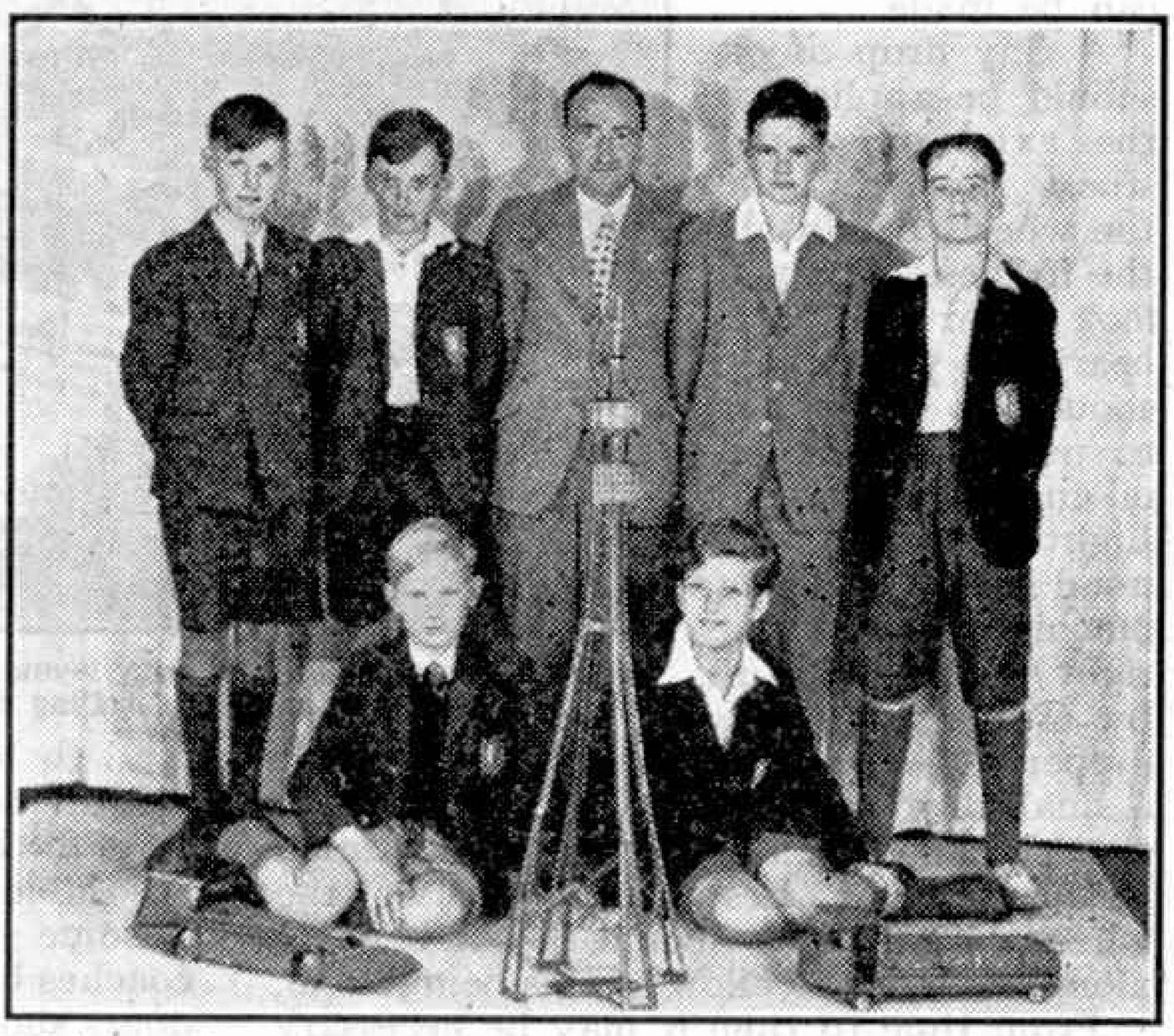
Most Club officials know the value of a reasonable amount of rivalry between members. So long as this is friendly it increases greatly the fun of Club activities. It can take many forms. One of the most popular is provided by Model-building Competitions, in which each member must aim at securing as many points as possible. Any suggestion of selfishness or prize hunting can easily be overcome by the simple device of organising members in sections, and crediting his section with the points instead of the successful individual member. By far the best way is to award points to all models entered, so that every member can contribute to his side's total.

From section spirit to Club spirit is only a step, and in Clubs where this scheme is put into practice we find the "Nuts" doing their utmost to surpass the "Bolts" in one contest, and the "Bolts" resolving that they will seek revenge by overwhelming the "Nuts" in the next. The full effect of this comes when the points are carried forward over an entire Session, for excitement increases as the points mount up, one side striving perhaps to make a small lead into an unassailable one, and another determined to cut down that lead altogether. This friendly rivalry can be extended to games, and at the end of a Session the members of all sections can enjoy themselves at a social meeting, and can laugh over the events of the period when they were competing sternly with each other.

THE SUMMER PROGRAMME

We are now approaching the outdoor season, and the increasing activity of Club life should show itself this year in a larger number of successful summer events. In the larger Clubs cricket teams can be formed, and even if a good programme of matches with other organisations cannot be arranged there is plenty of scope in a sectional tournament. Practically all Clubs can form cycling sections, and many can arrange special events for photographers. Visits to places of railway or engineering interest should figure on every programme, and when nothing else can be fitted in a good ramble is always possible.

Finally, there are the pure pleasure excursions. Two or three of these should be allowed, especially during the holiday season, when officials and members alike can spend a few carefree hours in pure enjoyment at some seaside or inland resort. Such events rank with the Social Evenings and parties of the winter months, and are helpful in cultivating Club spirit.



Officials and members of the Gillingham M.C. Mr. S. Watts, Leader, is in the centre of the back row, in which B. Watts, Secretary, is seen on the extreme right. This Club was affiliated in March 1947. Enthusiasm in model-building is the chief feature of the Club's activities, and games also are played. Membership has shown a satisfactory rate of increase.

CLUB NOTES

HUNTINGDON M.C.—On Visitors' Night a Fun Fair was held in addition to a Model-building Contest, in which prizes given by parents were awarded. A party was arranged for the New Year. Mr. Stewart gave an interesting Lecture on "*Life in the Outer Hebrides*." At a Social Evening a Mock Trial was held and Games played. Club roll: 50. *Secretary:* F. Saddington, 9, Avenue Road, Huntingdon.

BOSTON M.C.—The chief activity continues to be Model-building, and large models of a dockyard crane and a six-wheeled lorry have been made. Model aeroplane flying has been taken up. A miniature of a diesel railcar has been constructed for use on the Club's Hornby Train Layout. Club roll: 13. *Secretary:* P. E. Luff, 103, Woodville Road, Boston, Lincs.

TRANMERE M.C.—A new Club Room has been taken. Model-building competitions continue to be popular, as also are Games Nights. A Hobbies Night has been introduced, when members discuss Stamp Collecting, Drawing and Railway Problems, and refreshments help to make this feature attractive. Club roll: 11. *Secretary:* D. Naybour, 53, Milton Road, Tranmere.

HOLLAND

MAASTRICHT M.C.—Outstanding recent events have been a Social Evening and a visit to the locomotive sheds of the Netherlands Railways at Maastricht, where members were fortunate to see the largest tank locomotive in Europe, just in for repairs. Films also have been shown and constructional work carried on. Recent attendances have been excellent, the result of the enthusiasm aroused by a successful Exhibition. Club roll: 23. *Secretary:* H. Felix, Cannerweg 172, Maastricht, Holland.

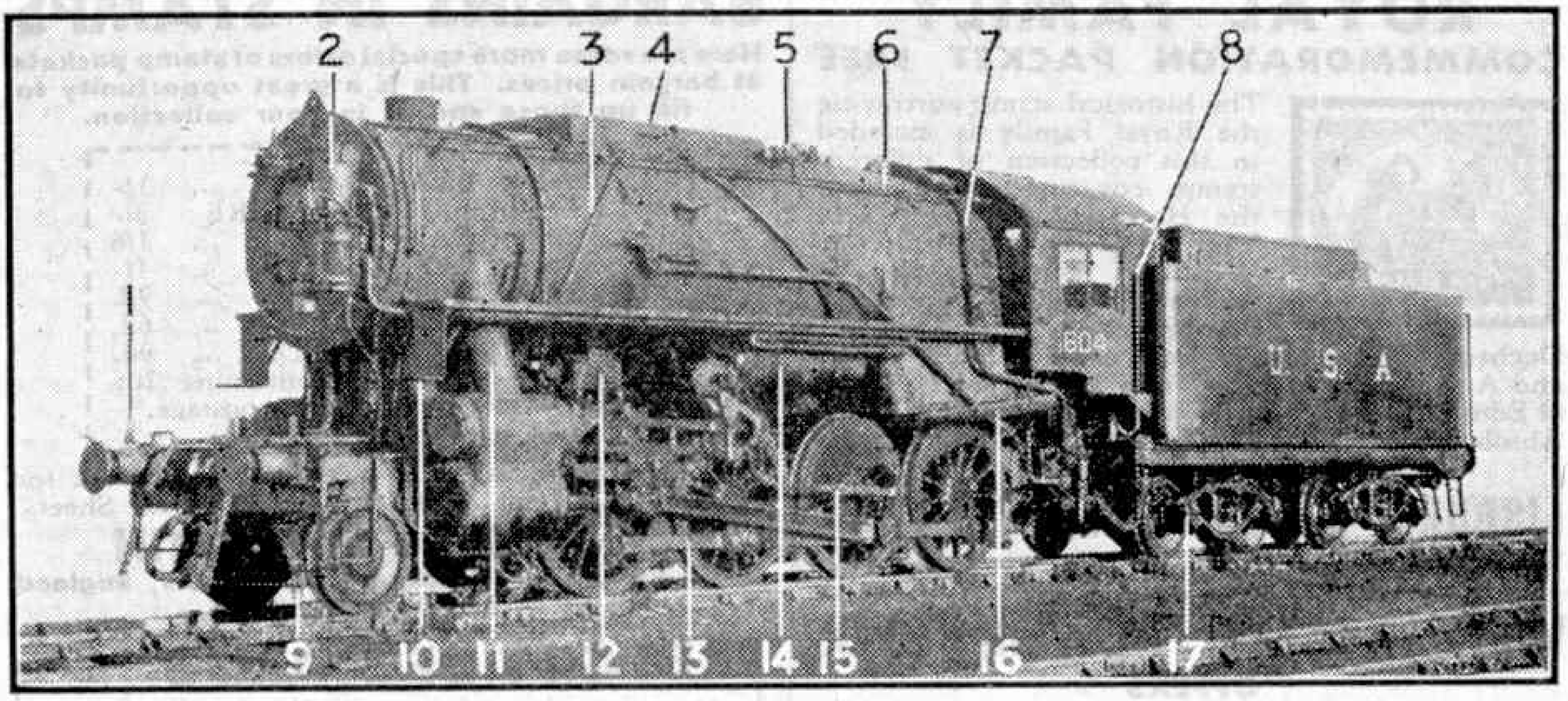
BRANCH NEWS

COLWYN BAY—The track is being enlarged and work has begun on a low level railway. Some equipment has been given to the Branch by the father of an old boy of the School. A scheme for dividing control of the track into sections has been adopted. *Secretary:* K. L. Holgate, Crusaders, Rydal School, Colwyn Bay.

Competitions! Open To All Readers

Prize-winning entries in "M.M." competitions become the property of Meccano Ltd. Unsuccessful entries in photographic, drawing and similar contests will be returned if suitable stamped addressed envelopes or wrappers are enclosed with them.

Do You Recognise These Locomotive Parts?



The illustration on this page shows a locomotive incorporating features of British and American practice. Various parts of the engine have been indicated by numbers, and competitors are required to make a list of the parts thus shown and to state briefly their purpose. Readers will find this a pleasant and interesting task.

Entries should have the parts in numerical order on one side of the paper only, and each should bear the name, age and address of the competitor.

As usual there will be two sections, for Home and Overseas readers, and in each section there will be prizes to the value of 21/–, 15/– and 10/6 for the best efforts in order of merit, together with a number of Consolation prizes.

Entries should be addressed "*April Locomotive Contest, Meccano Magazine, Binns Road, Liverpool 13.*" The closing date in the Home Section will be 31st May; and that for the Overseas Section, 30th November, 1948.

Thrills!

In the list below we enumerate eight exciting experiences of various kinds, each of which will appeal to a large proportion of readers. Entrants in this contest are asked A, to state which of these would give them the greatest thrill, and B, to arrange the list in the order in which they think the votes of the competitors place them.

1. Jet plane flight at 600 m.p.h.
2. Flying to Australia in 72 hours.
3. Trip in cab of L.M.S. diesel-electric locomotive.
4. Climbing Mount Everest.
5. Accompanying John Cobb in a motor car record attempt.
6. Footplate trip on "Flying Scotsman."
7. Three-week underwater cruise in a modern submarine.
8. Flying over Mount Everest.

The competition will be divided into the usual two sections, for Home and Overseas readers respectively, and in each there will be prizes to the value of 21/–, 15/– and 10/6 for the best entries in order of merit, with a number of Consolation awards. Closing dates: Home Section, 31st May; Overseas Section, 30th November.

April Photographic Contest

In this competition, the fourth of our 1948 series, readers are asked to send in photographs in which animals provide the main interest. Pictures taken in the wild or at a zoo or domestic scenes with pets would form suitable entries. In all cases the animal interest of the print will be taken first into consideration by the judges and will be given preference over the purely pictorial and technical qualities of the photograph.

Every photograph entered in this contest must have been taken by the competitor, but it is not necessary that he should have actually developed the film or made the print. The back of his entry must have on it the name, address and age of the competitor, with a short note to say what the photograph actually represents. A fancy name may be added if desired in addition to the actual title.

Entries will be divided into two sections, A for readers aged 16 and over, and B for those under 16. They should be addressed "*April Photographic Contest, Meccano Magazine, Binns Road, Liverpool 13.*" There will be separate sections for Overseas readers, and in each section prizes of 21/–, 15/– and 10/6 will be awarded. Closing dates: Home Section, 30th April; Overseas Section, 30th October.

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CANADA ROYAL WEDDING FREE!

To Commemorate the Wedding of H.R.H. **PRINCESS ELIZABETH, Canada** has issued a **beautiful** stamp of her Portrait, which is illustrated in **March** "M.M." I am presenting this **historical stamp** together with a New **PAKISTAN** unused, **free** to all collectors asking to see my **Bargain** Approvals and sending 3d. for postage and lists of sets, etc. (Without approvals, price 8d.).

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For other Stamp Advertisements see also pages 138 and vii.

Stamp Collecting

The Windward and Leeward Islands

By F. Riley, B.Sc.

TRINIDAD, which we reached in our Empire stamp tour in January, is the starting point for a cruise northward among first the Windward Islands and then the Leewards. These form the first steps in a series of islands, growing larger northward, that lead eventually towards Florida and give the appearance of a connection between North and South America that has failed to remain entirely above water.

Of this string of islands from Trinidad to Cuba and the Bahamas, the Windwards have received their name because they are exposed to the prevailing north east trade winds, from which the Leeward Islands to the north are more sheltered. The four principal islands are Barbados, Grenada, St. Vincent and St. Lucia, all names thoroughly well known to us through their connection with the naval warfare that for centuries raged around the West Indies, following on their discovery by Columbus and their exploitation. The islands are not large. St. Lucia, the greatest in extent, has an area of only 233 square miles, but all are productive and have long been noted for such things as sugar, molasses, spices and rum, logwood and pines, to which bananas have now been added.

The more recent stamps of these islands give some idea of their products, and also help collectors to picture them as gems in a tropical ocean. St. Vincent and St. Lucia began with portrait stamps, among them many very interesting issues, a few of which command high prices. Later issues have been pictorial, affording us very interesting glimpses of life on the islands. For instance, the 1936 and 1938 sets of St. Lucia show us scenes in Castries, the capital and one of the finest ports in the West Indies, waterfalls and mountains, and one value depicts the loading of a cargo boat with bananas. St. Vincent also produced an excellent pictorial set in 1938.

Barbados, the first stamps of which appeared in 1852, nine years before those of the other Windward Islands, started out with a series of Britannia issues, which remind us of the earlier stamps of Trinidad, to which special reference was made in the January issue. Ships are prominent on later stamps. The tercentenary issue of 1906 was a 1d. stamp showing the "*Olive Blossom*," the first British vessel to visit the island. In 1605 the crew of this vessel landed and erected a cross, at the same time cutting on the bark of a tree the words "*James, king of England and of this island.*" Nelson, who had previously been stationed in the West Indies for several years, paid a flying visit to the island in search of the French fleet that lured him to the West Indies before Trafalgar, and after the battle Bridgetown, the capital, soon had its Trafalgar Square and a monument of the great Admiral. The monument is shown on the seven stamps of the Nelson centenary issue of 1906. The seal of Barbados is prominent on many stamps of the island, and later came interesting commemoratives on which a portrait of Charles I appears. An interesting point about the island is that it is not included in the Windward Islands group for government purposes, but is an independent colony.

Grenada also produced interesting sets of pictorials, but perhaps in many ways the outstanding issue of recent times is the ½d. stamp of 1937. The design of this is similar to that of the Dominica stamp illustrated on this page. It is brown, and is in photogravure, and is certainly very attractive indeed. The island was discovered by Columbus in 1498 and this event was celebrated 400 years later by the issue of a 2½d. stamp showing the flagship of the great discoverer.

Until 31st December 1939 Dominica was one of the Leeward group. It is the loftiest of the islands and is very picturesque, abounding in streams fairly well stocked with fish. Off its coast Rodney won his great victory over the French in 1782, a battle that saved Jamaica and ruined French naval prestige.

Turning northward to the Leewards we find a series of islands of no less interest both from the historical and the stamp point of view. Antigua, another discovery of Columbus, is the seat of government of the group and was settled as long ago as 1632. This event was celebrated in 1932 by a very fine issue of stamps. Three values of this; 6d., 1/- and 2/6, bring us another reminder of the close association over the long period between Nelson and the West Indies, for they show his famous flagship "*Victory*." St. Kitts-Nevis also has associations with Nelson, for it was at a church on St. Kitts, the larger of these two islands, that Nelson was married in 1787. A shallow channel a mile or two in width separates it from Nevis. This is almost circular, and has the appearance of a perfect cone rising from the sea, its summit being 3,596 ft. high. The earlier stamps of St. Kitts-Nevis are noteworthy for a picture of Columbus that appeared on six stamps of the first issues of 1903, and on some values of later issues. He is shown peering through a telescope, although this instrument had not been invented in his time. This island too celebrated a tercentenary, in 1923, by the issue of a special commemorative set, with 13 values, from ½d. to £1, all of the same design, showing a 17th century ship off the island.

(*Continued on page 140*)

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For other Stamp Advertisements see also pages 136 and vii.

Stamp Gossip

and Notes on New Issues

By F. E. Metcalfe

A SHORT time after these notes appear the Royal Wedding Jubilee stamps will be issued. As most writers on stamps have been falling over themselves to advise how valuable the £1 stamp is likely to become, perhaps a number of junior collectors may be tempted to buy a copy, in spite of the fact that the sum involved is a good deal more than they can afford to spend on stamps at one time.

Well, if you are in that category it is just as well if, before you make your purchase, you consider one or two facts. First of all, while it is true that it has been announced that the £1 wedding stamp will only be on sale for a month, it is also true that this is ample time for everybody to buy as many stamps as they need, and it will be surprising if supplies are at all short. In other words, the period of issue is quite as long as is necessary for huge quantities of the stamps to be bought. It is the writer's opinion that such quantities will be taken up by collectors and speculators, and it may be quite a long time before one will be able to resell at even a small profit. If however you decide to buy one of these stamps, take great care that it is kept in a clean uncreased condition, otherwise you will not get a pound for it later on.

In spite of the fact that the postal authorities have gone the wrong way about changing their old-established custom of only issuing special stamps on very special occasions, no doubt they will learn from experience, and it is pleasant that at long last British collectors can look forward to the future when they will occasionally be able to buy stamps of their own country, instead of having to buy only those from other parts of the world.

The importance of profits to be made from stamps was revealed the other day, when in reply to an M.P.'s question the Government spokesman stated that the Crown Agents in London had sold to British stamp dealers, from 1945 to 1947, postage stamps to the value of £1,336,785 sterling. Think of it! This immense sum is quite apart from the many thousands of pounds worth of stamps which the colonies themselves sold to dealers and collectors. To give one specific instance as to how stamps help a needy colony, Pitcairn Islands can be quoted. Before they had their own postage stamps their finances stood at less than £100. Then in 1940 they issued a set of stamps. Now they have more than £40,000 in the exchequer, and stamp collectors are responsible for every penny of that handsome sum. It is going to be used for the purchase of a completely furnished school, etc. Well done, stamp collectors!

No wonder the whole world is busy providing beautiful stamps to attract collectors' pounds, shillings and pence. There was a time when the South American

states led the world in attractive issues, but countries like France, Austria, etc., have long since captured the palm for artistic productions. France is making particular efforts not only to make money, but also to advertise her colonies by philatelic methods. The stamp we are illustrating from French Equatorial Africa is one of a particularly attractive set at present on issue. These French Colonial stamps are not hard to obtain used, and collectors can make a nice showing quite inexpensively, but it is a question if they are as good an investment as are those of our own colonies, which enjoy an ever increasing vogue all over the world.

As a contrast to the French stamp a copy of a current air stamp of Salvador is being illustrated. This latter stamp was printed and designed in England, but could any design be more trite and dull, compared with the artistic French emission?

The U.S.A. never fails, of course, to provide a new stamp, and the one illustrated is of more than usual interest seeing that it honours a negro. Dr. G. W. Carver is well worthy of a special stamp. He was not one of those individuals who dressed up in a lot of showy uniforms, and acted merely as a figurehead. He really did something for mankind. Born on 12th July, 1864, of slave parents in Missouri, he was kidnapped, with his mother, and bought back to the plantation for a horse worth $300. His mother was never heard of again. His father had been killed. Starting in a small village school, he worked his way up from one educational establishment to another, and finally in 1894 received his B.S. Degree at the Iowa State College. His work on plant breeding, etc., ultimately received world attention, and among other honours in 1916 he was elected Fellow of the Royal Society for the Encouragement of Arts, etc. His creative research resulted in the production of milk and cheese, soap and plastics from peanuts; synthetic rubber, gum for postage stamps—the kind used on his own stamps of to-day—breakfast foods, etc., were produced from sweet potatoes. Incidentally, Britishers who have lived in hot countries and had to tolerate sweet potatoes as an article of diet, will be glad that they really are useful for something. America has honoured itself by producing such a stamp.

Chinese stamps are now out of favour with most collectors, owing to the utter impossibility of keeping abreast with the various issues following on currency inflation. A few years ago a $5 stamp was considered quite a high value for this country, but the $5,000 stamp we are illustrating this month is only worth a copper or two.

Australia's new set is gradually taking shape and we hope next month to illustrate either the 1/3 or the 2/- value. If the other stamps are no better than these, it cannot be said that they will have justified all the fuss which was made when the new stamps were first mooted, but some of the stamps which are being superseded will be well worth buying mint.

Sponge Fishermen of Florida—(*Cont. from page 127*)

to the representative of the Co-operative Association. After the bids are in, the highest bidder is announced. It is interesting to note here that the seller is not obliged to dispose of his sponges if he does not consider the price high enough, but can hold them over for another sale, contrary to the usual auction rules. This procedure continues until all the lots are sold.

The buyer removes his purchases to the packing house, cuts them loose, breaks off all pieces of shell or rock from the bottom of the sponge, trims them, using sheep shears to remove any roughness, and then dries them in the Sun. When dry they are packed in bales, numbered, invoiced and shipped to their destination. Special processes of curing, cleansing and bleaching required by many of the sponges take place after they are sent away by the wholesale dealer.

Closely associated with the industry is the Epiphany service of the Greek Church. It is held yearly on 6th January, when visitors come to Tarpon Springs from all over America. After mass in the Church of St. Nicholas a procession is formed. This is headed by the Archbishop and officers of the Church, dressed in their magnificent robes, who march to the city's bayou, where they board a specially constructed barge. A portion of the gospel is read in Greek by the Archbishop, then in English by an interpreter, after which a white dove is released from a cage.

As the bird rises into the air the Archbishop tosses a small golden cross into the water, aiming at a spot where all contestants would have a more or less equal chance of retrieving it. Instantly there is a stir and a splash as a number of youths dive from their boats into the water. There is a mad race, a foamy scramble, when the lucky one holds up his arm proudly, cross in hand. He swims to the barge, is lifted aboard, and kneels in front of the Archbishop to receive the blessing that is reputed to give a year's good luck. For the next 12 months he is the hero of the colony.

Wool Weights—(*Continued from page 121*)

of King James.

The reverse sides of these wool weights usually have round indents or cavities into which metal could be inserted to adjust weights when worn or lightened by usage.

In Hull may be seen a 7-lb. wool weight of lead, while occasionally one meets with a stone weight. A unique specimen of the latter is in Hereford Museum. It was found at Dorstone near by, and is marked by six long and one short lines to denote that its weight was 6½ lb., a most unusual marking. It is exhibited alongside another stone weight of 60 lb. that was in use in Hereford City for as long as such weights were legal.

These weights are scarce and are much prized by collectors. The reason for their scarcity is that new standards were issued for each new reign and all old weights were ordered to be returned and recast with the new Royal arms. The use of obsolete weights was strictly forbidden. Yet a few escaped, and even to-day further specimens sometimes come to light in most unexpected places.

Stamp Collecting—(*Continued from page 137*)

Next we come to Montserrat, discovered by Columbus in 1493, settled by Irishmen, conquered and held by the French for a time, and finally occupied by the British in 1784. It is considered one of the most healthy and beautiful of the West Indies. Its mountains are volcanic peaks, the highest of which is still active. It began its stamp story with the issues of Antigua overprinted, but in 1880 it started to issue its own stamps, some of which show the device of the colony, and a tercentenary issue appeared in 1932, all values of this set showing part of the island, with Plymouth, its chief town. More recently there came a further pictorial set, three values of which are associated with the island's cotton production.

First Prize at a Fancy Dress Dance for children was won by Edna Temple, Tottenham, who appeared as Miss Meccano. As our photograph shows, effective use was made of Meccano Parts as ornaments.

The last of the Leeward group is the Virgin Islands, which form the connecting link with Porto Rico and the larger islands to the north west. Not all of these islands are British. Their name was chosen by Columbus, their discoverer, in honour of St. Ursula, a representation of whom appears on the four designs of the first issue of 1866. Portrait issues followed, some of the tablet variety, and 1922 saw the appearance of a characteristic design, a modern version of which was used in the 1938 issue, an example of which is reproduced on page 137. The Virgin Islands were favourite resorts of the buccaneers of the 17th century.

From a stamp point of view the Leeward Islands are peculiar in that two sets of stamps are current in them. In addition to the separate issues already mentioned there is a general issue for the whole group. The first general issue came in 1890, since when there have been several sets, all of the portrait type. There have been other peculiarities in the postal history of the islands, and their stamps certainly present a wide and interesting field for all collectors.

THE KEN VIEW MODEL RAILWAY

A special display of the Ken View Model Railway, 27, Broadway Parade, Crouch End, London N.8, will be held on Monday 5th April at 7.30 p.m. The display will be opened by Mr. T. W. Royle, C.V.O., M.B.E., Deputy Regional Officer of the London Midland Region, British Railways. Among those present will be Lord Brabazon of Tara.

Fireside Fun

"What do the busy bees teach us?"
"To keep away from their hives."

• • • •

"Is this your ball, Dick?"
"Any windows broken?"
"No."
"Then it is mine."

• • • •

"Did you have a good night's rest in your new bed, Johnny?"
"I don't know, mum. I was asleep."

• • • •

"Give me a penny, dad."
"What does a big lad like you want with a penny?"
"I hadn't thought of it that way, dad. What about a shilling?"

• • • •

"What do you call a man who drives a car?"
"It all depends on how near he comes to me when I run across the road."

• • • •

"Don't howl like that. I'm not hurting you."
"Yes, you are. You are standing on my corn."

BRAIN TEASERS

TRAIN WORKING

A train sets off from a terminal station and runs at 60 m.p.h. From the terminal at the opposite end of the line other trains running at 40 m.p.h. set off at regular intervals, and the first train passes one of these every 20 min. At what intervals do the trains set out from the distant terminus? B.I.N.

• • • •

FROM SAND TO SNOW

On 1st April in the year SNOW, which was X years ago, my father was WX years old. He was born in the year SAND. How old is he now? Each of the capital letters in this puzzle of course stands for a number.

• • • •

A CUNNING CODE PUZZLE

The apparent nonsense given below hides a great truth. Can you find what this is?

AOM TTRE TC NZREC OPIA BTN CO TESI ZONOMS TINT AH HE ISOB LELFE ODWS RROT NEH FRO TAGAB AJSB OY

M.H.K.I.

• • • •

"Please, sir, will you take my little brother home? He's lost."
"Why don't you take him?"
"I can't. I'm lost too."

• • • •

SOLUTIONS TO LAST MONTH'S PUZZLES

The answer to our first puzzle is 1466. The hour hand makes the circuit twice, the minute hand 24 times, and the seconds hand 1440 times.

The vowel to be added in our second puzzle last month is E and the sentence can then be made to read WE NEVER SEEMED FREE MEN WHEREVER WE WENT.

Anyone locked up in the room in our third puzzle would have to eat the dates from the calendar, drink the springs of the settee, and open the door with a key from the piano. We warned you that this was not serious.

• • • •

THIS MONTH'S HOWLER

An alien is a flap on an aeroplane wing.

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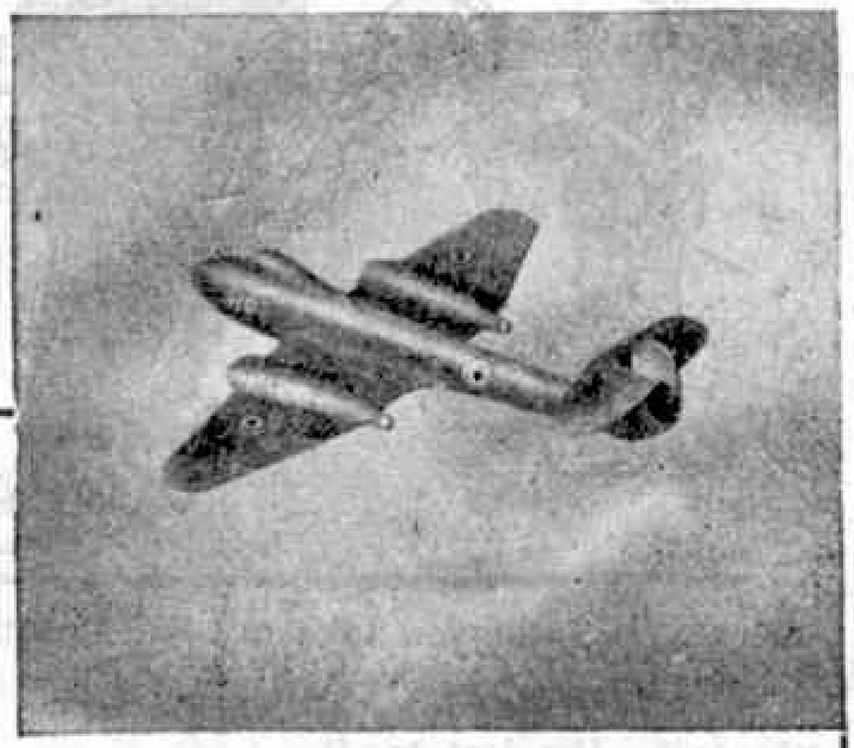

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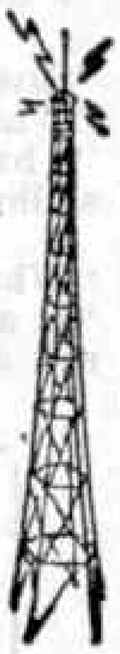

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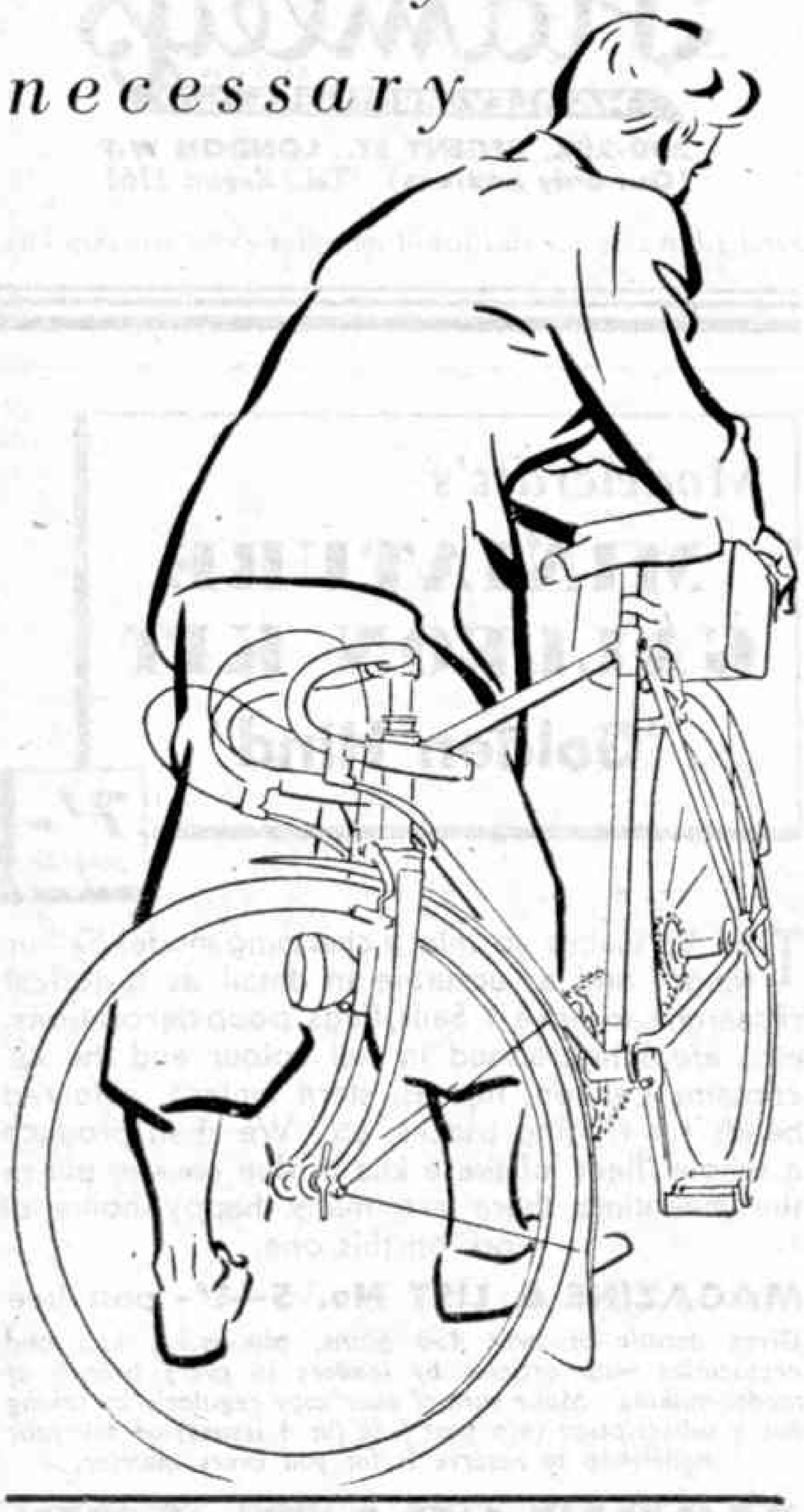

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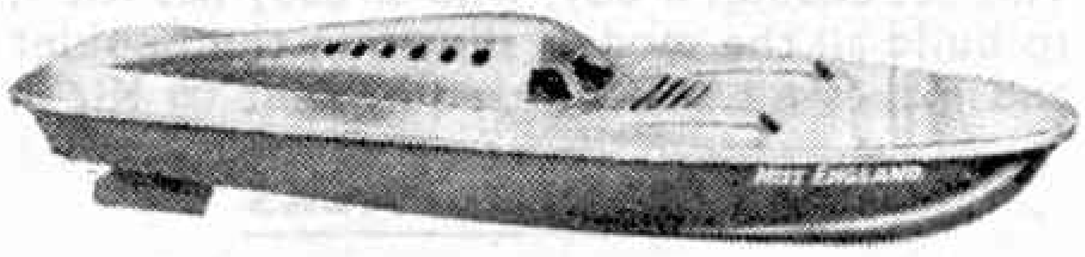

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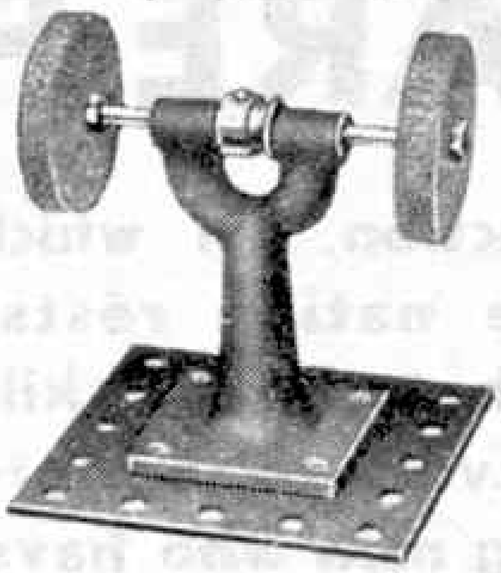

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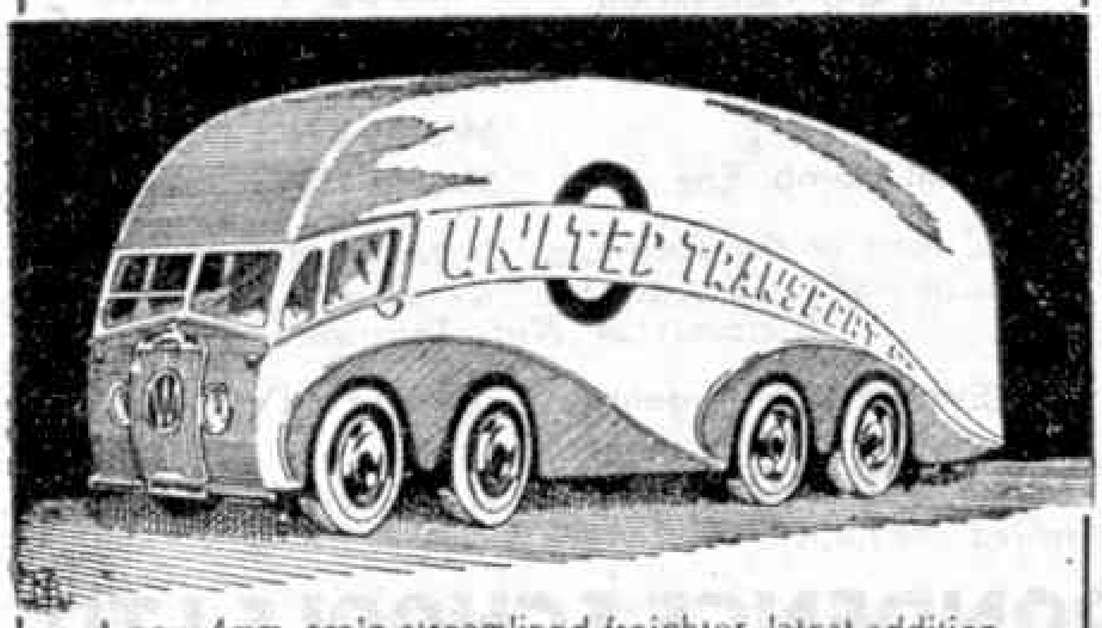

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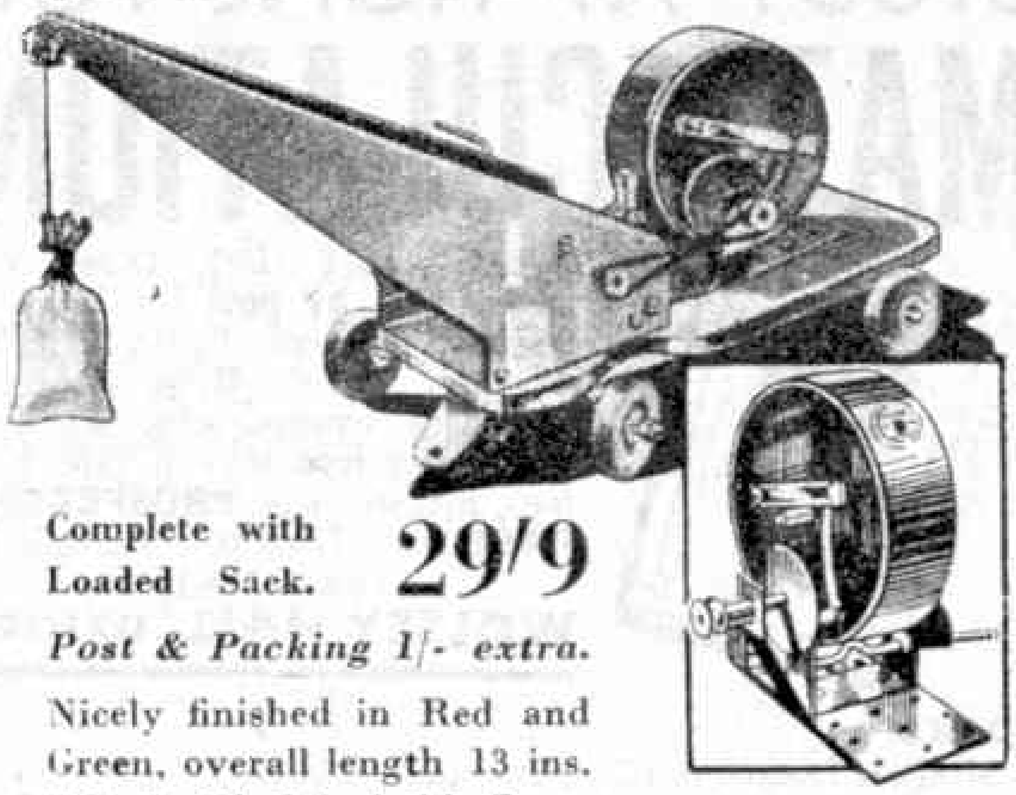

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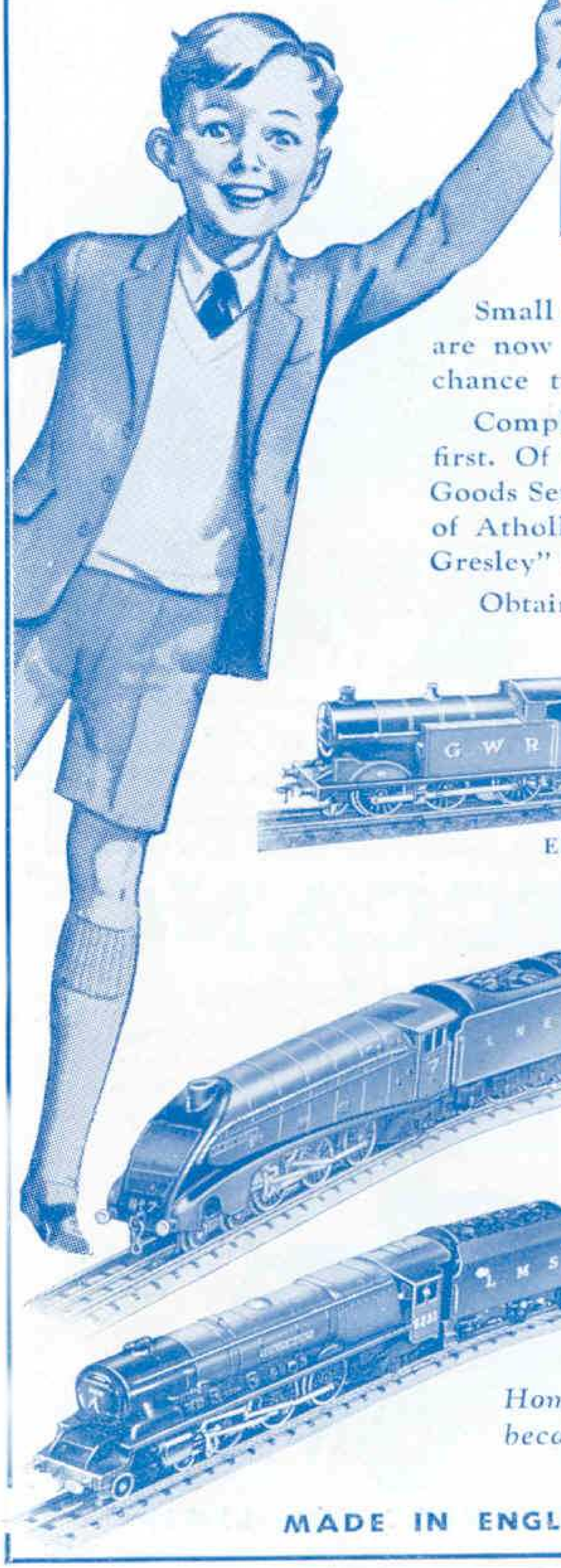

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